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Hammersmith Bridge

An iconic car-free crossing for our capital

April 2024



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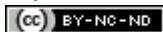
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He has given evidence to transport and environmental audit select committee enquiries and the UK and Scottish Climate Assemblies, and served on the government's Net Zero Transport Board. Leo is also co-author of *Badvertising*, on the challenge that high-carbon advertising poses to progress towards net zero.

This report was only possible thanks to the hard work and tenacity of Possible's erstwhile transport planner Akwesi Osei, now a Sustainable Transport Advisor at Ealing Council.

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Executive Summary



- Hammersmith Bridge has been closed to motor traffic for five years now (since April 10th 2019).
- The bridge's age and protected heritage status means it is unlikely to be possible to prove a viable business case for a full restoration to bring car traffic back across the Thames at this location.
- Reopening Hammersmith Bridge to general motor traffic is not consistent with achieving London's - or Hammersmith & Fulham's - climate change commitments, which require a steep and rapid reduction in car miles driven in London by a minimum of 27% by 2030.
- So far no work has been undertaken by the bridge's owners, the London Borough of Hammersmith & Fulham (LBHF) council, to explore alternative options for meeting the mobility needs of local communities in a context in which the bridge remains closed to motor traffic in perpetuity.
- Our work reveals that the group that continues to be most negatively affected is people with limited mobility living in car-free, low-income households on the south side of the river.
- Many of the early negative impacts of the closure have now subsided, with only small residual delays to AM peak bus journey times at select locations in south west London. Emergency services appear to be unaffected.
- Overall motor traffic volumes across the affected region have fallen by around 10% more than in the rest of London. Total traffic counts on neighbouring road bridges are lower and air quality has improved at every affected location since the closure.
- Most of the AM peak traffic on neighbouring bridges is comprised of single-occupant private cars.
- The best and most cost-effective available option for supporting the mobility of those who are not easily able to walk or cycle to cross the river here is likely to be with a fleet of small, lightweight electric

autonomous shuttles operating a regular service between North Barnes and Hammersmith Apollo.

- A hire fleet of accessible micromobility vehicles available to local residents is also an attractive option.
- The best way to alleviate traffic blight and congestion on alternative road traffic routes across the Thames, in the absence of smart road user charging, is likely to be through smart camera tolls on single-occupancy private vehicles during the AM and PM weekday peak periods.
- LBHF council stated in February 2024 that it will now explore the potential for “e-mobility options to shuttle residents across the bridge, notably the elderly or Disabled”. Richmond’s MP and council are supporting the rapid reintroduction of a pedicab service over the bridge.
- Alternatives to reopening to cars are unlikely to be substantively pursued by LBHF until after a general election, and a new government has given a definitive answer on the question of Department for Transport funding for the council’s preferred option to return cars to the bridge.

Skip straight to our proposed solutions for the future of Hammersmith Bridge



Photo: 3D visualisation of our podway and cycle lane proposal for the bridge, aerial view from the river. (Possible)

Methodology note



This project set out to answer one key question: what would a solution for Hammersmith Bridge look like if we were to meet local people's mobility needs in a way that is consistent with achieving our climate change goals?

Throughout, we sought to ensure that our proposals are well informed by the best available evidence and reflect the needs of those most affected by the closure. To achieve this we embarked on an extensive desk research and stakeholder engagement exercise, beginning in October 2021 and running through to May 2023.

Over this period we reviewed official policy and strategy documents, public statements by politicians, news coverage and academic studies related to the bridge's closure, conducted interviews, focus groups, surveys and public engagement events in addition to consultations with other primary and secondary stakeholders. We also obtained and analysed a wide range of relevant datasets, including conducting primary research, to get an objective view of the potential problems caused by the closure and how best these could be addressed.

Concurrently, we liaised with e-cargo bike logistics companies, micromobility hire firms and specialist autonomous vehicle providers to understand the range of possible car-free lightweight mobility solutions. Our transport planner worked with a chartered highways engineer and architectural visualiser to iteratively develop a comprehensive proposal for an alternative car-free future for Hammersmith Bridge.

The full suite of activities undertaken as part of this project are set out in the 'what we did' section below, while the findings from these diverse investigations inform the sections defining the problems and potential solutions that the long term closure of Hammersmith Bridge to motor traffic presents for west London.

The Problem



Why is the bridge closed?

Hammersmith Bridge is nearly 150 years old and has experienced problems requiring maintenance and upgrades from the late 20th century onwards.

Between 2017 - 2019, after numerous reports that raised concerns of the bridge's resilience, Mott Macdonald consultancy firm found further damage to the bridge after decades of unchecked corrosion.

This discovery led to the bridge being closed in 2019. It has remained closed to motor traffic since, although reopened to pedestrians in 2021. More detail on the sequence of events around Hammersmith Bridge's closure can be found on Hammersmith & Fulham's website¹.

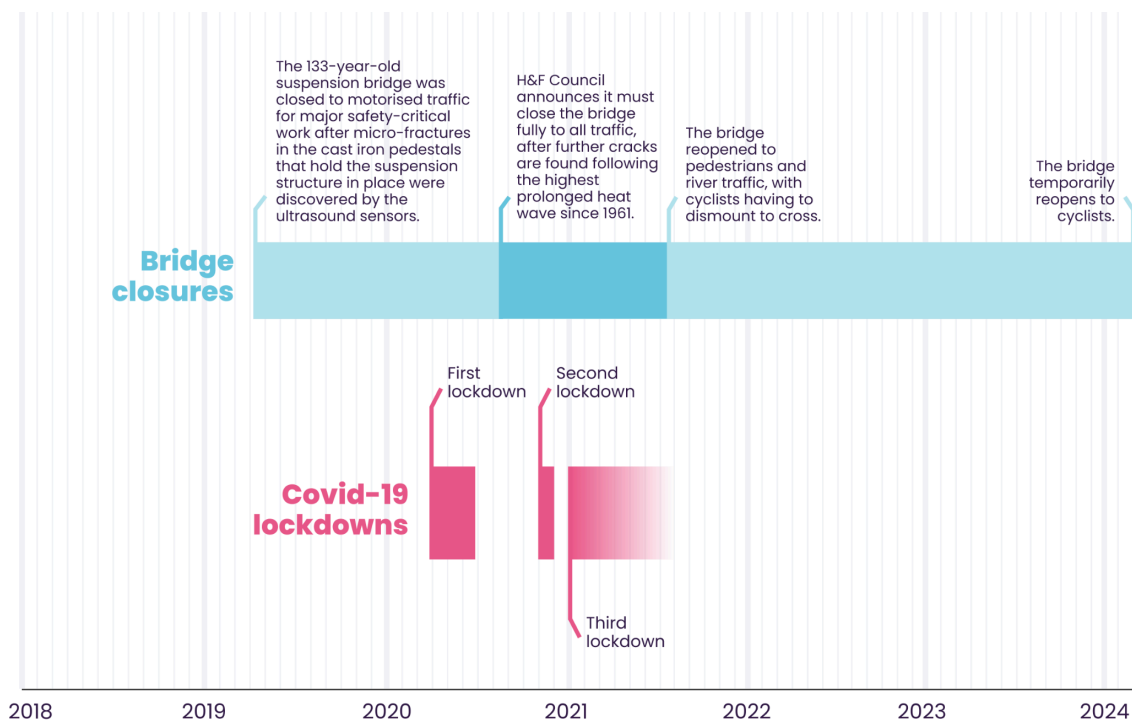


Figure 1: Timeline of Bridge Closures

¹ [Information, updates and other resources about the closure of Hammersmith Bridge, Hammersmith & Fulham](#)

Why can't the bridge reopen to cars?



Photo 1: Hammersmith Bridge c.1900 (Historic England Archive)

The basic problem is that the mechanical suspension bridge's Grade II* Listed Heritage status means any restoration work must conform tightly to its original specifications, which were never designed to carry motorised transport. This Listed status means the Bazalgette-designed bridge cannot be demolished and replaced with a more basic concrete road bridge as found elsewhere on this stretch of the Thames. But at the same time, repairing this delicate Victorian infrastructure to the structural standards required to support general traffic is phenomenally expensive: £250 million at last count, a figure that continues to rise at each new estimate.

Nobody wants to foot this bill. Ordinarily, when a road bridge fails, the Department for Transport (DfT) will typically cover 85% of the costs of repair, with the relevant highways authority liable for the remainder. But in this case, complex contested local and national politics have combined with a hugely disproportionate cost to benefit ratio for the project to create an intractable deadlock. The government insists that they will cover only one third of the repair costs, with the bridge's formal asset owners, the London Borough of Hammersmith and Fulham (LBHF), liable for a further third,

with Transport for London (TfL) facing the final third of the costs.

All government transport infrastructure investment must pass a value for money appraisal test which demonstrates that the costs of the project will be outweighed by the economic benefits of the improved transport connectivity². But by any normal measures, there is no business case for spending hundreds of millions of pounds of public money on reinstating a two-lane road link here. Hence the DfT has since 2021 been sitting on various iterations of an outline business case for the repairs submitted to them by LBHF, but keeps saying it has yet to receive a viable one.

TfL's most recent post-Covid financial settlement from the government included a commitment to funding their third of the bridge repairs to reopen to motorists, "depending on costs"³. That settlement expired in March 2024, with no capital allocation to the bridge repairs included in the final funding letter and no onward commitment from either DfT or TfL to do so in the future⁴. TfL have a long list of urgent capital works to critical surface asset infrastructure which they cannot afford⁵. Hammersmith Bridge is a long way from the top of that list.

LBHF meanwhile has no recourse to this kind of money whatsoever, and has therefore proposed to borrow its third of the repair costs and recover them over future decades via a toll on car drivers crossing the bridge – though under the plans proposed by Leader Stephen Cowan this would not apply to LBHF residents⁶. The council has repeatedly given public guarantees that its residents will not be required to contribute to the repair costs via their taxes, despite having already spent millions of pounds of its taxpayers' money on this.

Data shows that LBHF residents rarely drove over Hammersmith Bridge prior to its closure. The local communities that have been most affected lie instead within the jurisdiction of the London Borough of Richmond Upon Thames, whose own council has been very clear that it will

² [Transport Analysis Guidance](#), Department for Transport

³ [Transport for London – Long-term Funding Settlement](#), Department for Transport

⁴ [Transport for London – capital funding settlement](#), Department for Transport

⁵ [London's surface assets will continue to deteriorate as TfL's budget is stretched](#), New Civil Engineer

⁶ [Information, updates and other resources about the closure of Hammersmith Bridge](#), Hammersmith & Fulham

not make any financial contribution to the repairs⁷. Richmond council and MPs across south west London are also opposed to LBHF's toll proposal on the grounds that they believe it would mean more traffic persists on neighbouring road bridges, and that their own residents should not have to pay to cross the river by car.

Notwithstanding its formal heritage protections, there is little appetite for tearing down this much loved iconic local landmark amongst communities on either side of the river. This is why the Leader of LBHF, Stephen Cowan's first statement upon closing the bridge promised that it would be "returned to its full Victorian splendour".

Cowan also promised that it "would reopen to motorised traffic within three years", although these were contradictory goals, since the bridge was built before the advent of motor cars, and the structure was only designed to carry people, horses and carriages. Looking at Victorian photographs of the bridge, one of the most splendid features is the obvious lack of car traffic.



Photo: Postcard of Hammersmith Bridge from Castelnau, c.1930s. (Unknown)

Despite there being no viable business case nor obvious source of funding for the repair works, all local political stakeholders on both sides of the river continue to maintain

⁷ [Tory leader says Richmond and Hammersmith & Fulham councils should help pay for Hammersmith Bridge repairs, MyLondon](#)

that they remain fully committed to reopening Hammersmith Bridge to motor traffic.

At present, the only approved and fully funded repairs are the stabilisation works (described by LBHF as ‘phase one’) which are currently underway. Originally scheduled to complete within one year after starting after the council made funding available in December 2021, the stabilisation works are still ongoing at the time of writing.

What impact is this having?

At the time of writing, April 2024, Hammersmith Bridge has been closed to motor traffic for five years. This section draws on a wide variety of quantitative and qualitative data sources to build a picture of how the closure of the bridge has affected life in this part of London. The impacts of the closure can be broadly divided into two categories: loss of transport connectivity over the Thames at the bridge itself; and secondary effects on traffic volumes and patterns in other parts of west London, most notably on neighbouring bridges and their approach roads.

One of the key things we learned over the course of carrying out this project was that public and political perceptions of these impacts were not always consistent with the available data.

Loss of connectivity

Prior to its closure, Hammersmith Bridge was carrying up to 25,000 vehicles per day, including 1800 buses serving six separate routes. Richmond council’s survey of residents in the months after the closure found that three quarters were frequent users of the bridge, two thirds of whom usually travelled over it by bus⁸. By far the most common reason for crossing the bridge was access to transport links for onward journeys to elsewhere in London and beyond, followed by access to leisure/entertainment, travel to work and access to amenities.

Our interviews with local politicians confirmed that the severance of motorised transport access for communities in Barnes, East Sheen and to a lesser extent, Roehampton, from amenities and economic opportunities in Hammersmith and beyond has been the primary impact of the closure. Buses can no longer connect directly into London’s wider public

⁸ [Hammersmith Bridge Survey Results Report, Richmond Upon Thames](#)

transport network via Hammersmith's two tube stations serving three lines and bus hub serving 25 routes.

These problems reached their nadir during the 11 month period from August 2020 in which the bridge was closed to walking and cycling as well as motor traffic, with unacceptably long delays to already circuitous bus journeys making life intolerable for many in Roehampton and the "Barnes peninsula". 9 out of 10 residents who responded to a survey at the time said that the closure of the bridge to walking and cycling had negatively affected their mental health, with feelings of isolation and being "trapped" or "shut off".⁹

Problems were especially acute for school pupils living on one side of the river but attending school on the other, with short 5-10m walks becoming a "multimodal adventure across the city"¹⁰, or requiring teenagers to walk home alone after dark on long, unlit routes during the period when the bridge could not be crossed on foot.

For most, the worst of these impacts went away when the bridge was reopened to foot traffic in summer 2021. But the effects of the loss of bus connections between Hammersmith and Barnes have been particularly negative for residents who do not own cars and cannot easily walk or cycle over the bridge. This part of London is not served by the Underground and relies on South Western Railway (SWR) services. SWR were ranked the third worst for passenger satisfaction with performance prior to the pandemic¹¹, and in 2022-23, only two thirds of their trains ran on time¹². Over half of residents in lower income areas of Roehampton do not have access to a car, and a third of residents in some parts of Barnes¹³. North Barnes has one of the oldest populations in London; almost a fifth of residents are pensioners who may be less able to use active travel to get around¹⁴. Our focus groups with Age UK in Barnes found that reaching appointments at Charing Cross hospital has become more arduous than before for some of Barnes' most vulnerable residents.

Although some MPs and local newspapers have cited delays to emergency vehicles on 999 calls as a problem from the

⁹ [Hammersmith Bridge closure has had major impact on people's mental health, new survey suggests](#), the Standard

¹⁰ Ibid.

¹¹ [National Rail Passenger Survey – NRPS – autumn 2019 – main report](#), Transport Focus

¹² [TOC key statistics](#), Office of Rail and Road

¹³ [Census Maps](#), Office for National Statistics

¹⁴ [Census Maps](#), Office for National Statistics

bridge closure¹⁵, this is not a claim that is supported by any available evidence. The London Ambulance Service say that they have “never released any information about the closure impacting response times” and that “our response times may have gone up in the last five years but there would be many different factors to explain that.” The London Fire Brigade told us they have rerouted 999 calls from Barnes to Richmond fire station instead of Hammersmith fire station, and data from their response time records show that there has been no increase in 999 fire brigade response times in the Barnes peninsula since the bridge closed.

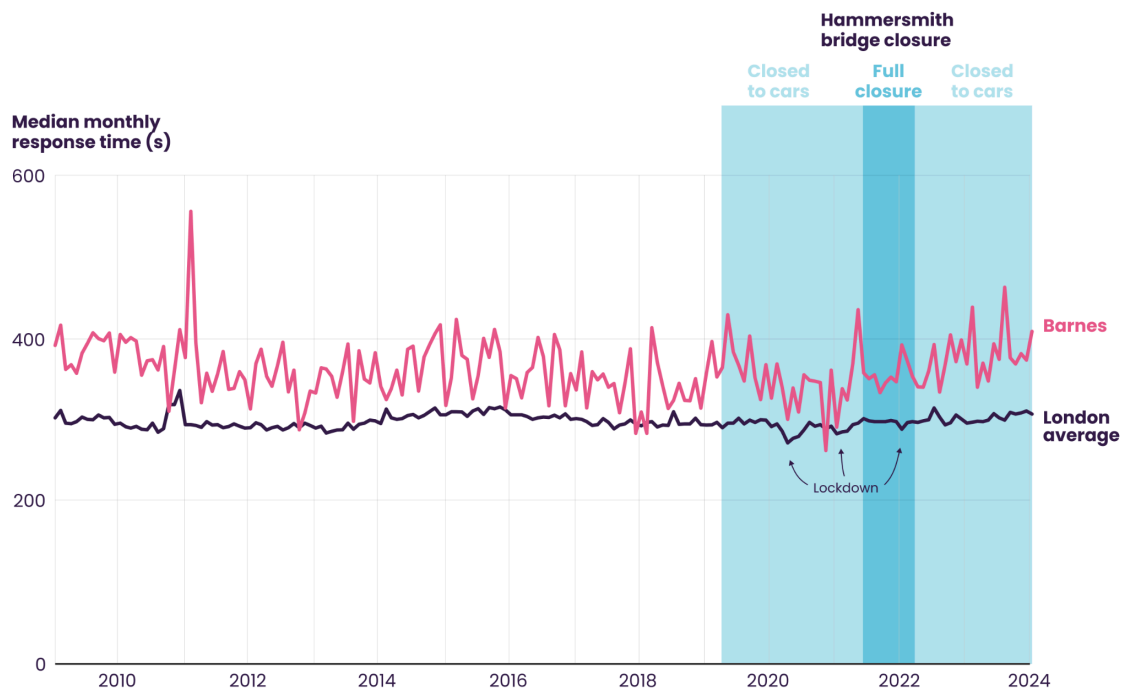


Figure 2: Fire brigade response times in Barnes and London

A 2019 consultation by Richmond Council in the immediate aftermath of the closure found that local businesses reported negative impacts on their staff’s commutes, suppliers and distributors as well as their customers, with two thirds feeling their staff had no ‘reasonable alternative travel options’¹⁶.

Six months later at the start of 2020, before the pandemic began, a survey of local businesses by Barnes Community Association (BCA) found a somewhat more nuanced picture emerging. BCA also analysed Mastercard economic spending data for the area. While more specialist companies that had previously relied on outside visitors or trade across the river saw a drop in takings, businesses that relied more on

¹⁵ [Hammersmith Bridge: Restoration Funding, Hansard](#)

¹⁶ [Hammersmith Bridge Survey Results Report, Richmond Upon Thames](#)

local footfall appeared to have benefited from an increase in trade.¹⁷ Overall spending on retail businesses in Barnes had increased by twice the London average.

There is some evidence that over time the makeup and practices of businesses in the area may have changed in response to the shifts in transport connectivity; for instance a pizza restaurant near to the bridge recently closed¹⁸, reportedly as it was unable to deliver north of the river. Local breweries with pubs on the other side of the river have reported experiencing increases in their restocking times with 'dreys' – the vehicles they use to transport beer kegs between their pubs and brewery.

Barnes' major tourist attraction, the Wildfowl and Wetland Trust (WWT), told us that they did not experience any detectable change in visitor numbers when the bridge closed to traffic. WWT's data insights team investigated for us and reported that although membership (not visitor numbers) began to fall in late 2019, this was in line with trends at all of their other visitor centres. During the period the bridge was closed to pedestrians from 2020–2021, WWT Barnes saw a sharp decline in membership amongst residents of W6, with W6 dropping from the sixth to the eighth most important postcode for recruiting new members (with SW19 to the south moving up to take its place). Once the bridge reopened to pedestrians in summer 2021, W6 and W4 saw a 200%+ rise in new members, bringing numbers back to a level comparable with pre-covid and pre-bridge closures.

¹⁷ [Hammersmith Bridge – the real impact of its closure on our community](#), Barnes Community Association

¹⁸ [Pizza Bar Hammersmith](#), Google Maps

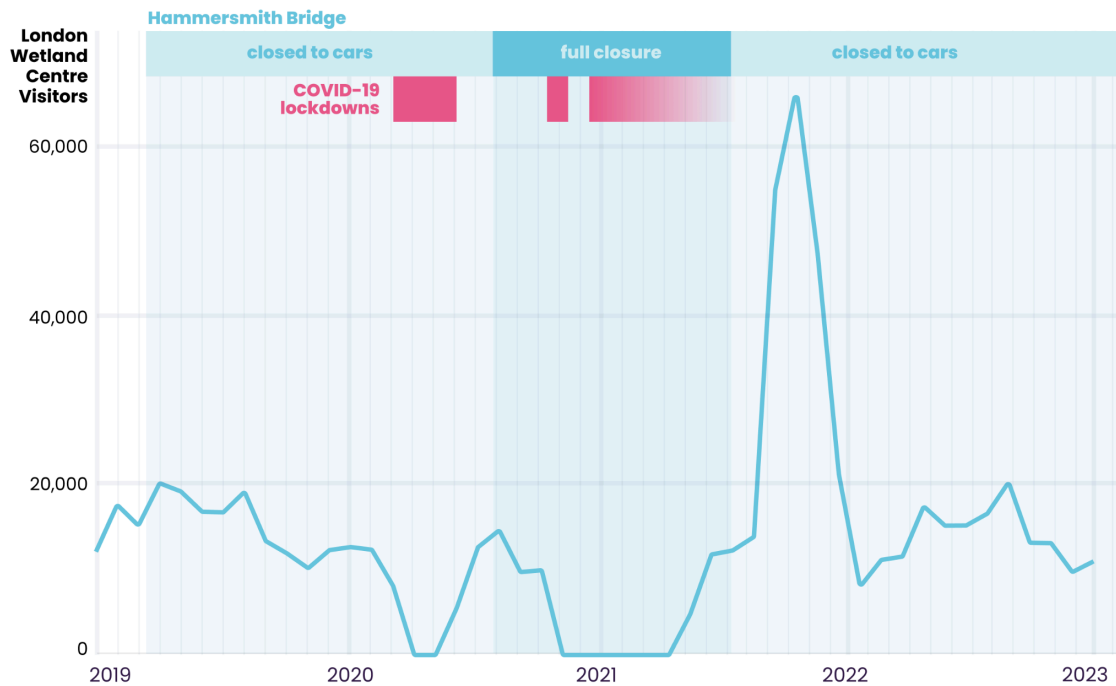


Figure 4: Visitors to the London Wetland Centre

Overall, it is clear that the negative impacts of the loss of connectivity at the bridge have been concentrated on local people who previously relied on the bus to cross the river. Demographically, this group is more likely to be older; have a disability; have lower income; lack access to a car; and be less able to walk or cycle. These are the people whose basic mobility needs have been most badly compromised by the bridge's closure to motor traffic.

Traffic displacement

The other major complaint of local people about the closure of Hammersmith Bridge is that of increased traffic and congestion on alternative road routes in this region of London.

In July 2019, TfL produced an internal report on the impact of Hammersmith Bridge's closure to motor traffic, and the mitigation measures they had already implemented. This identified 15,000 additional vehicles per day being observed on alternative Thames crossings routes, with a substantial increase in traffic volumes at a few key approach roads. On average these were causing delays to journeys of 5-10 minutes, but contributing to much longer delays when traffic incidents (collisions, roadworks, etc.) coincided with periods of high demand.

Wandsworth Bridge Road, Fulham Palace Road and the A4 on the north of the river all experienced substantial delays to traffic heading south or west over the Thames. On the south of the river, Putney High Street was seeing average delays of 3 minutes to bus journey times, and carrying between 2,500

and 4,000 extra vehicle trips per day. The report notes that following a large initial spike in additional northbound traffic in the AM peak, these journeys were “slowly trending downwards” over the course of the nine week study period.

The largest increase in flow (6,500 vehicles per day) was recorded on Chiswick Bridge, though this was not accompanied by delays at the bridge itself; instead, the worst affected location overall was nearby Chalkers Corner, where both the Upper and Lower Richmond Roads experienced very significant AM peak delays (averaging 9 minutes westbound on Upper Richmond Road).

TfL’s Network Management division took immediate action to re-timetable some routes and alter traffic light timings at key junctions to regulate flow, which helped to ameliorate the delays with some success. But their overall conclusion was that if the scale of delays recorded in the period immediately after the Hammersmith Bridge closed were to persist indefinitely, it would be “not unreasonable to expect the social disbenefits to exceed £50 million per annum.”

Nearly five years on, local MPs continue to cite the figures in TfL’s initial 2019 impact assessment. But the situation on the ground is now very different.

By the end of 2022 (when overall London traffic volumes had returned to pre-pandemic levels) traffic volumes across this part of west London were down by over 10% prior to the period before the bridge closure – much more than the whole of London. TfL say around 9,000 fewer vehicles are now entering inner London from the south west each day, while LBHF told us in response to a freedom of information (FOI) request that their own traffic monitoring finds that around 50% of the traffic has evaporated and cannot be detected on other routes.

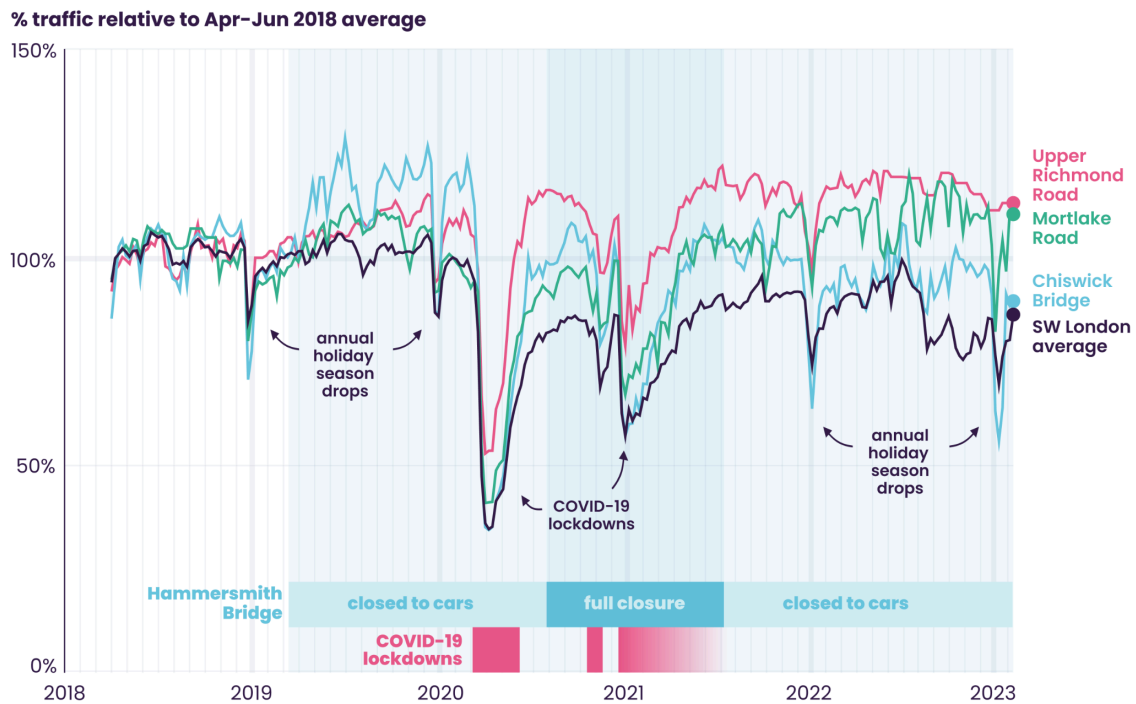


Figure 5: How the closure of Hammersmith Bridge affected local traffic (Data: TfL automated traffic counters)

This is consistent with well documented principles of traffic management; reduced utility for driving on particular routes will lead not only to other routes being driven, but also to a mix of modal shift to walking, cycling or public transport, destination switching to avoid the route (e.g. for shopping), and absolute reduction in number of trips being made (e.g. working from home for one day per week). Indeed, Richmond council's residents' survey right after the bridge first closed to traffic found that of those who used to drive over the bridge, 44% had already switched to walking or cycling across.

TfL automated traffic counters (ATCs) are located on main roads throughout the area, and show that traffic volumes have in fact reduced in almost all of the locations where increases were recorded in their 2019 impact assessment.

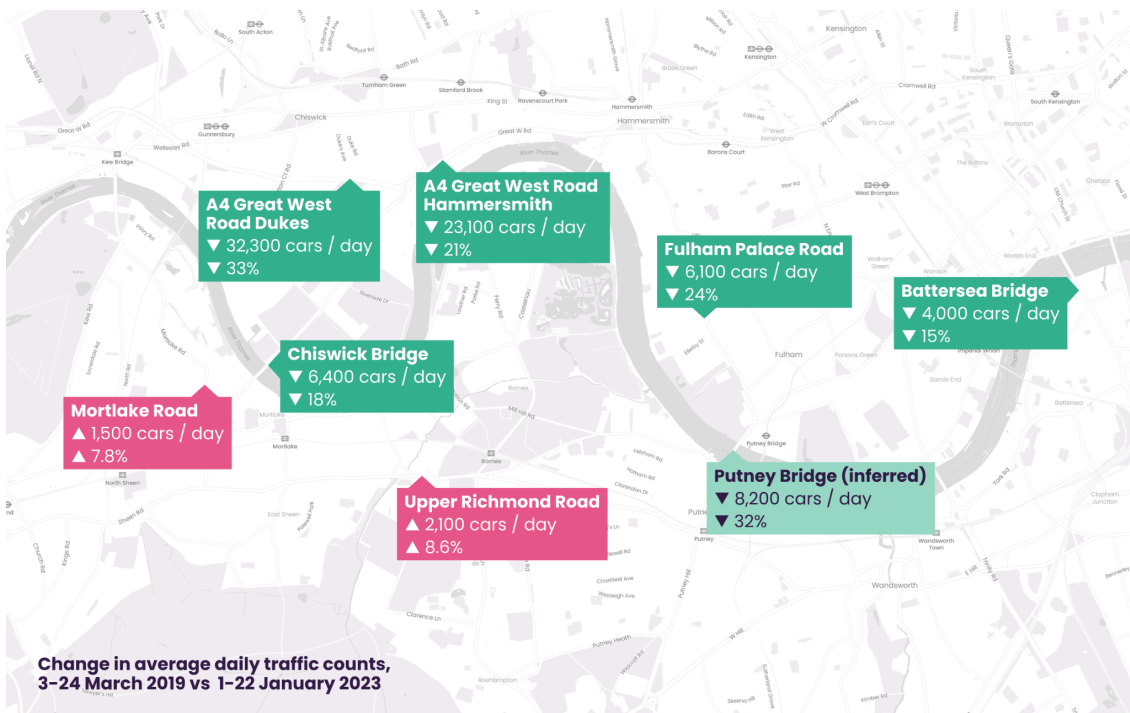


Figure 6: Traffic has reduced in almost all locations (Data: TfL automated traffic counters)

The DfT periodically conducts its own, less comprehensive, traffic counts, which corroborate the data from TfL's ATCs. By early 2024, the DfT was recording a reduction in total traffic volumes crossing all of west London's seven remaining road bridges of almost a quarter.

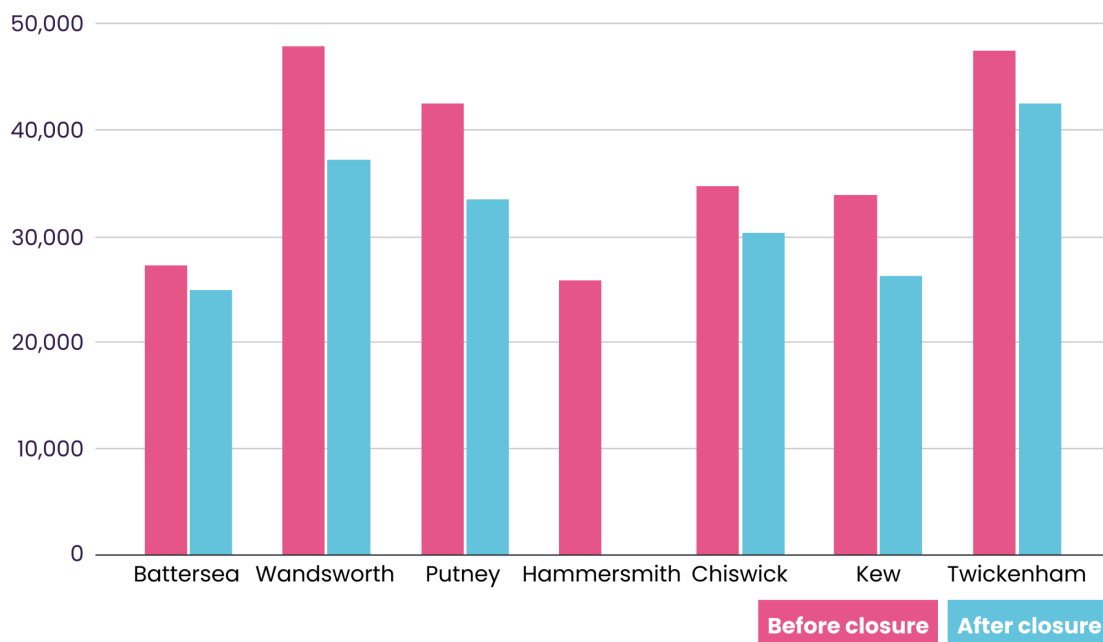


Figure 7: Traffic on West London's Thames bridges (Data: DfT)

The DfT records show that overall traffic volumes across all of the boroughs that host these bridges have also fallen by around 6% since Hammersmith Bridge closed to motor traffic.

Total traffic volumes averaged over time matter a lot for greenhouse gas emissions, but do not correspond perfectly with congestion, which is primarily a function of flows during peak periods. But even in the parts of Richmond that still see elevated traffic volumes, the remaining delays from congestion are now minimal – and buses are technically running to schedule thanks in part to timetable changes. Bus telemetry data provided to Possible by TfL show that bus journey times on Mortlake High Street, have gone from 94 seconds slower when the bridge first closed to just 24 seconds slower by early 2023.

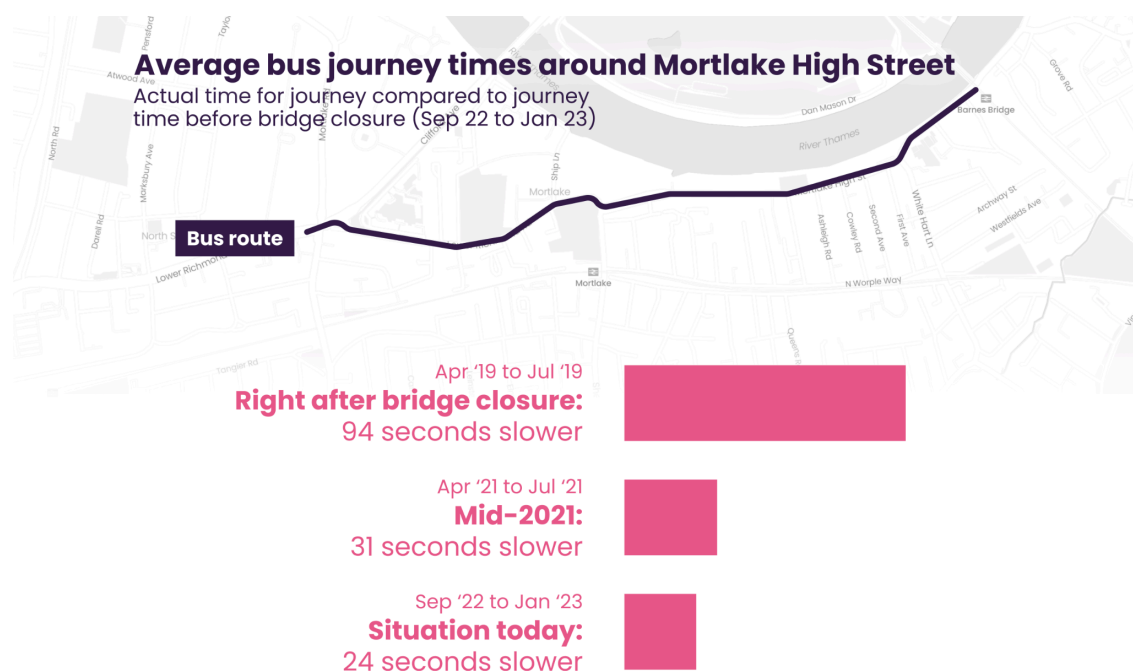


Figure 8: Bus journey times around Mortlake High Street

Upper Richmond Road remains one of the worst affected roads, where there are still average peak time delays of around 1m45s (down from 3m), which appear to be caused by local car traffic leaving the Barnes peninsula.

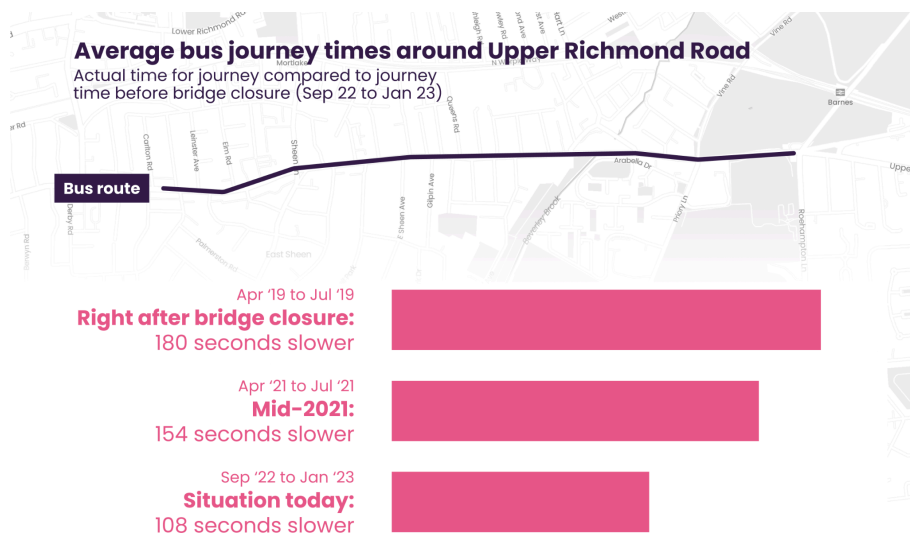


Figure 9: Bus journey times around Upper Richmond Road

Putney High Street

Putney High Street was mentioned by almost every one of the politicians we interviewed for this project, and appears to be the area where public pressure to reopen Hammersmith Bridge has persisted most strongly after residents in many other areas had stopped writing to their local representatives about the bridge. The suggestion is that there is a potentially chronic impact on this pinch point into central London.

In 2023 traffic consultancy Inrix named Putney High Street as part of the UK's most congested route¹⁹, and TfL data shows that buses are still taking on average 29 seconds longer to travel the short stretch between Upper Richmond Road and Putney Bridge in the morning peak than prior to the bridge closure.

¹⁹ [Inrix 2022 Global Traffic Scorecard: London Tops List as Most Congested City, U.S. Cities Inch Closer, Inrix](#)

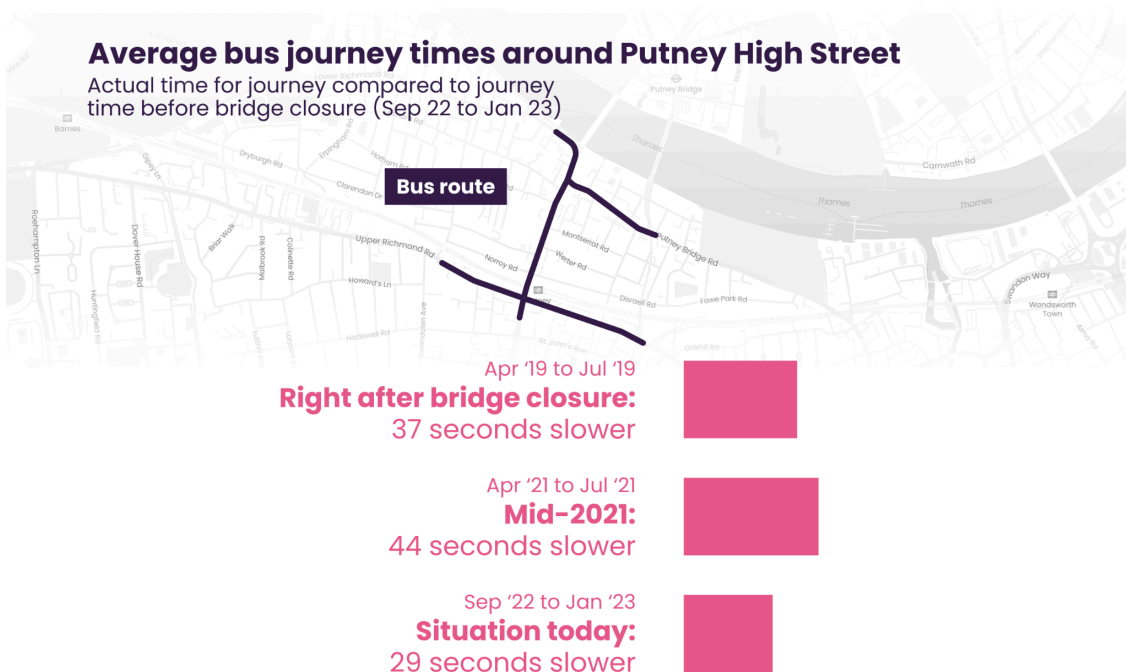


Figure 10: Bus journey times around Putney High Street.

Importantly, the biggest increase in delays was during the period in which Hammersmith Bridge was also closed to walking and cycling. This implies that the inability to cross the river on foot was generating additional car trips to inner London from Barnes via Putney, which have subsided since the footways on Hammersmith Bridge reopened.

It is also instructive to note here that chronic congestion has been a feature of Putney High Street since records began. The current Putney Bridge was opened in 1886 to replace the narrower, congested timber Fulham Bridge, and in 1909 became one of the first London bridges to host trams. By 1926 it was the busiest Thames crossing west of Westminster, and by 1935 London County Council had to widen it by 30ft to cope with the growing volume of carriages and cars.

In 2014, an air quality progress report from Wandsworth Council noted that , "Putney High Street is a very congested road with stop-start traffic flow, which is affected by vehicles delivering to businesses."²⁰ At the same time, TfL said that Putney High Street was the most polluted road in Europe²¹. Putney High Street's congestion problems are certainly real, and may have worsened measurably during the busiest periods since Hammersmith Bridge closed; but they cannot be said to be caused by this development.

²⁰ [Fifth round of Review and Assessment of Air Quality, Wandsworth](#)

²¹ [Putney Pollution 'Worst in Europe', Hammersmith Today](#)

Air quality

Many people in Putney also believe air quality on the high street is worse today than before 2019 as a result of Hammersmith Bridge being closed to traffic, but this is not the case. New hybrid and electric buses introduced as part of London's first 'Low Emissions Bus Zone'²² and the ULEZ have both had a major impact, and air quality on Putney High Street is much better today than it was prior to the bridge closing to motor traffic.

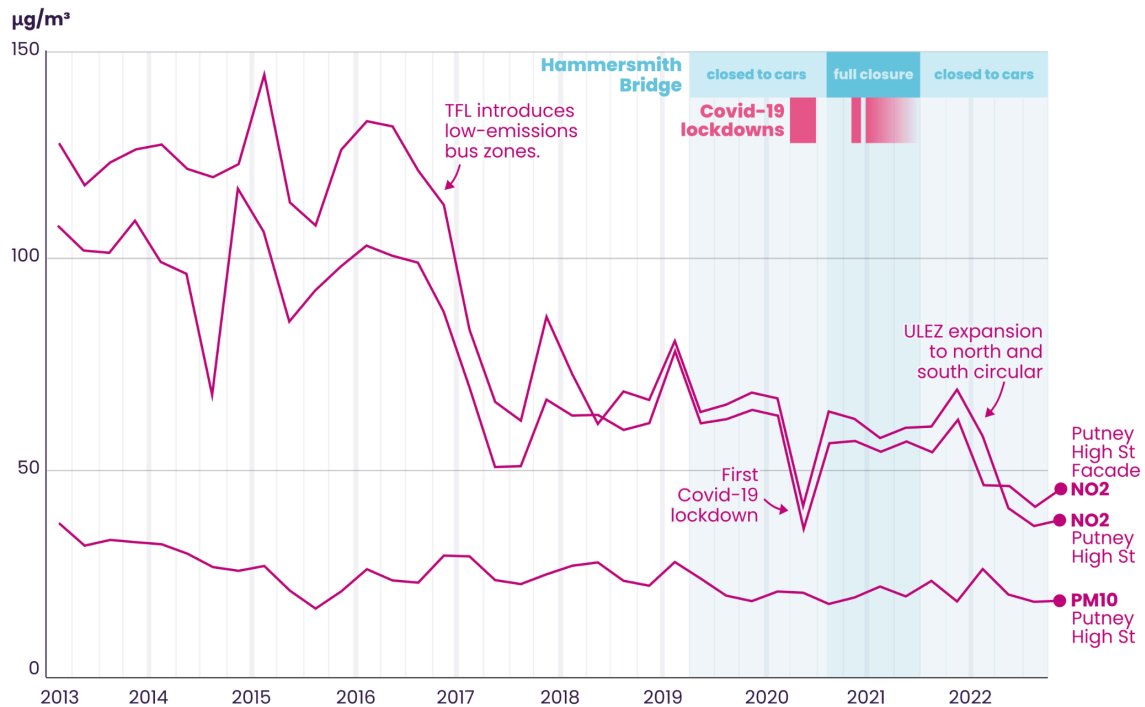


Figure 11: Putney High Street – NO2 and PM10 since 2023 (Data: London Air)

This is true right across the region – including at locations which are still experiencing slightly elevated traffic volumes. Air pollution is trending downwards thanks mainly to Mayoral policies to cut traffic pollution. The ULEZ expansion to outer London which took place in summer 2023 should help to continue this trend.

²² [Low Emission Bus Zones: Evaluation of the first seven zones](#), Mayor of London

% NO2 emissions relative to Jan-Jun 2018 average

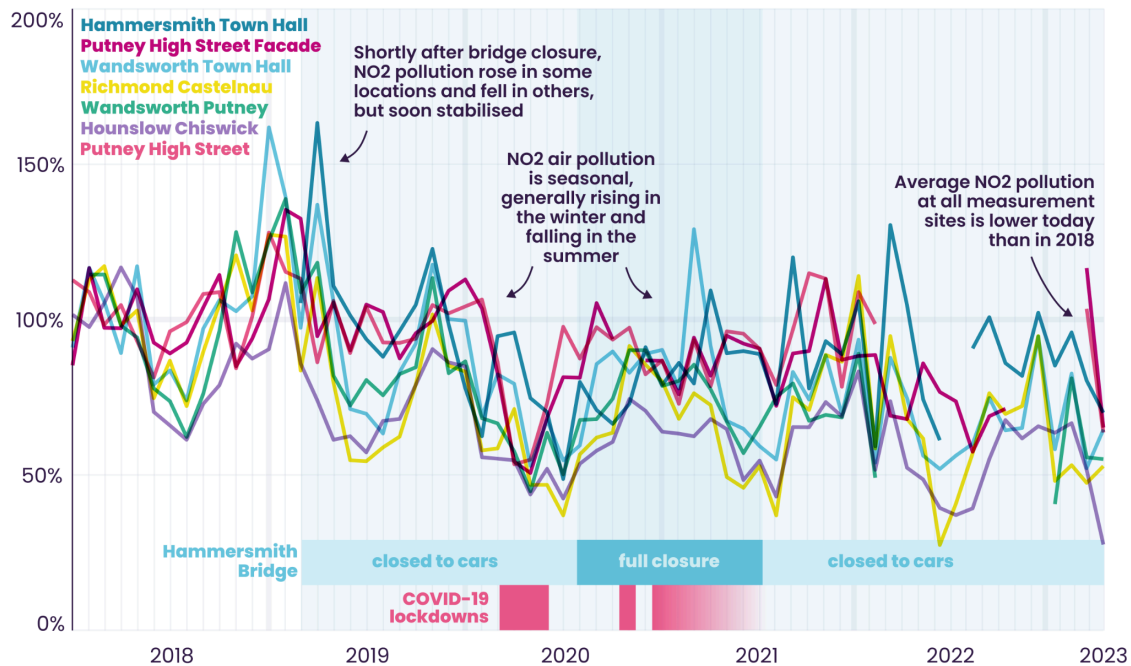


Figure 12: How Hammersmith Bridge's closure affected local NO2 air pollution (Data: London Air, Air Quality England)

Particulate pollution (PM) is flatter than NO2, as it is harder to eliminate. Particulates have many more environmental and industrial sources²³, and electric vehicles still produce high levels of particulate pollution from tyre wear²⁴, for instance. Nevertheless the overall trend line is still downwards, but more slowly.

²³ [Emissions of air pollutants in the UK – Particulate matter \(PM10 and PM2.5\)](#), Department for Environment, Food & Rural Affairs

²⁴ [Pollution From Tyre Wear 1,000 Times Worse Than Exhaust Emissions](#), Emissions Analytics

% PM10 emissions relative to Jan–Jun 2018 average

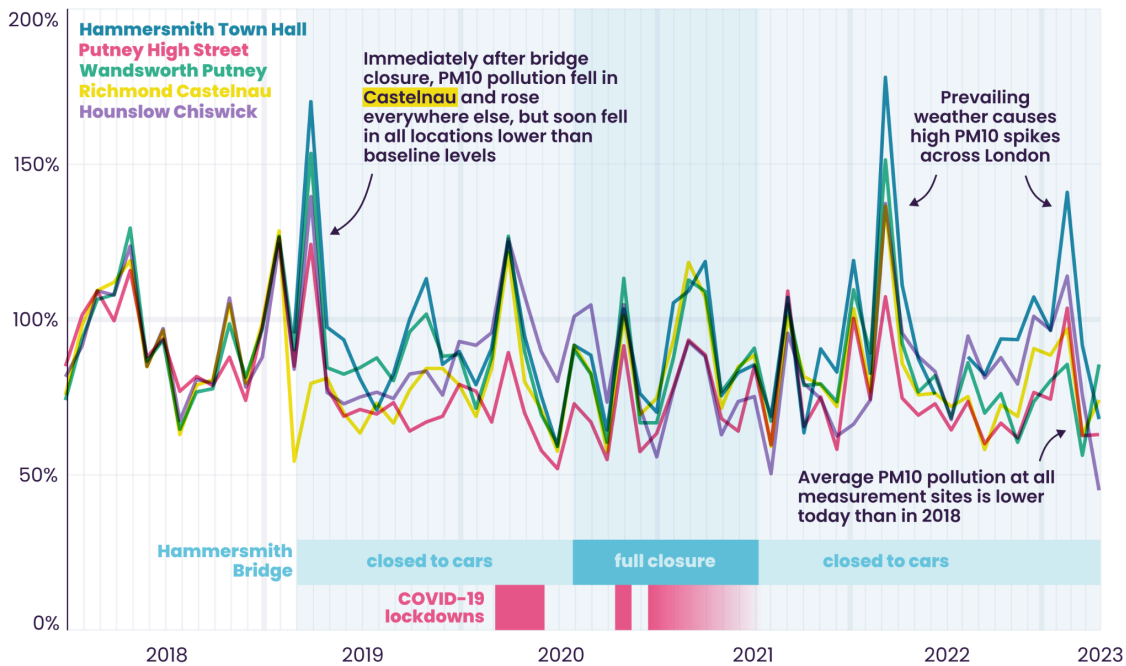


Figure 13: How Hammersmith Bridge’s closure affected local PM10 air pollution (Data: London Air, Air Quality England)

Despite these positive trends on air pollution, much more still needs to be done. As a January 2023 Putney Society bulletin noted, NO₂ levels at five out of seven air quality monitoring sites in Putney continued to exceed legal limits²⁵. Likewise there is nowhere in Hammersmith & Fulham with ‘safe’ levels of air pollution²⁶.

Traffic issues summary

Overall, it is undeniable that much of west and south west London experiences severe negative social and environmental impacts from excess motor traffic during peak periods. The periods of extreme disruption when the bridge first closed unexpectedly to motor traffic, and again when it was closed to pedestrian, cycle and river traffic too, are not a useful guide to the longer term effects of the bridge’s closure on local travel patterns. But at a handful of locations where rush hour traffic was already at intolerable levels before 2019, these impacts appear to have been exacerbated, albeit only slightly, by the closure of Hammersmith Bridge to motor traffic. The latest automated traffic count and telemetry data in this report dates from early 2023, so the situation is likely to have evolved further since then.

²⁵ [Update on Putney Air Quality, The Putney Society](#)

²⁶ [H&F partners with Imperial and NHS in war on dirty air, Hammersmith & Fulham](#)

Upsides

Some of the impacts of the closure have been positive, even in the weeks immediately after the initial closure. Air quality improved in Hammersmith and most of Barnes²⁷, and large numbers of people switched from driving to walking, wheeling and cycling²⁸. Although it is hard to establish a causal attribution, it is highly likely that the bridge's closure has contributed to ongoing growth in London's overall active travel rates²⁹ and in particular the extraordinary recent increases in walking trips and mode share in Richmond Upon Thames.

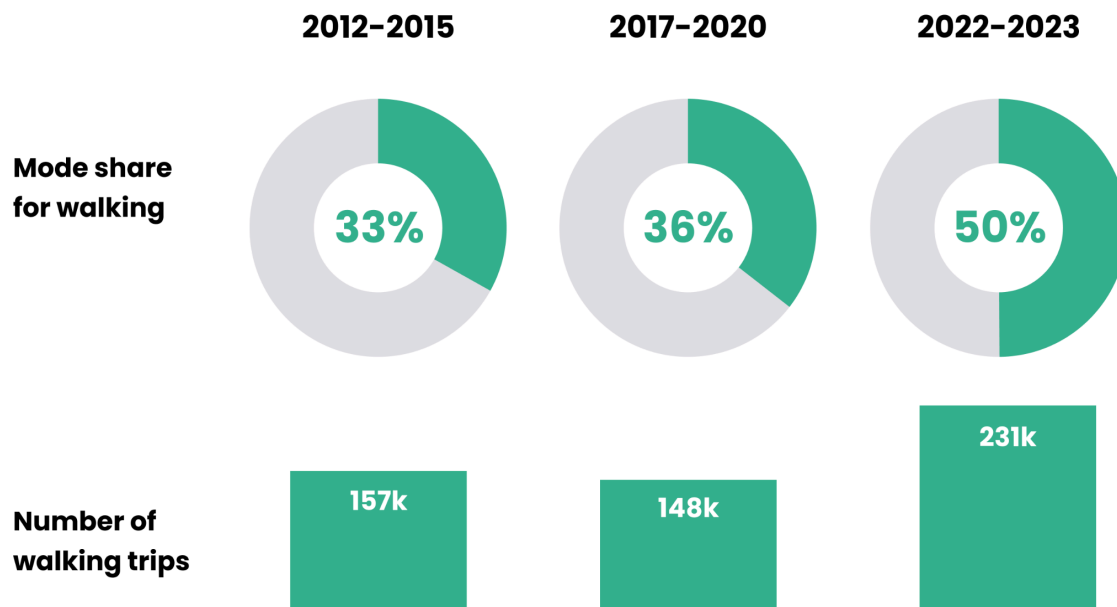


Figure 14: Mode share and number of walking and wheeling trips in Richmond Upon Thames.

In August 2019, think tank Fare City conducted a public survey on the bridge, asking people how they had been affected by the closure and for their views on the bridge's ideal future. A majority of under 30s felt the closure had some benefits, namely improved air quality, a nicer crossing experience and more positive lifestyle locally. A small majority of younger people preferred the idea of reopening the bridge for walking, wheeling, cycling and public transport only to reopening it to all motor traffic including private cars. Across all respondents, views were evenly split between these options³⁰.

²⁷ [Has closing Hammersmith Bridge really improved London's air quality?, City Monitor](#)

²⁸ [Hammersmith Bridge Survey Results Report, Richmond Upon Thames](#)

²⁹ [Travel in London 2023: Annual Overview, Transport for London](#)

³⁰ [Hammersmith Bridge Survey, Fare City](#)

The numbers of people cycling across Hammersmith Bridge in period after it closed to cars but before it closed to cycles soared, and there is some evidence that local businesses have adapted to more sustainable practices - e.g. the Elderflower Turkish convenience store on Castelnau has switched to e-cargo bikes for its local deliveries³¹.

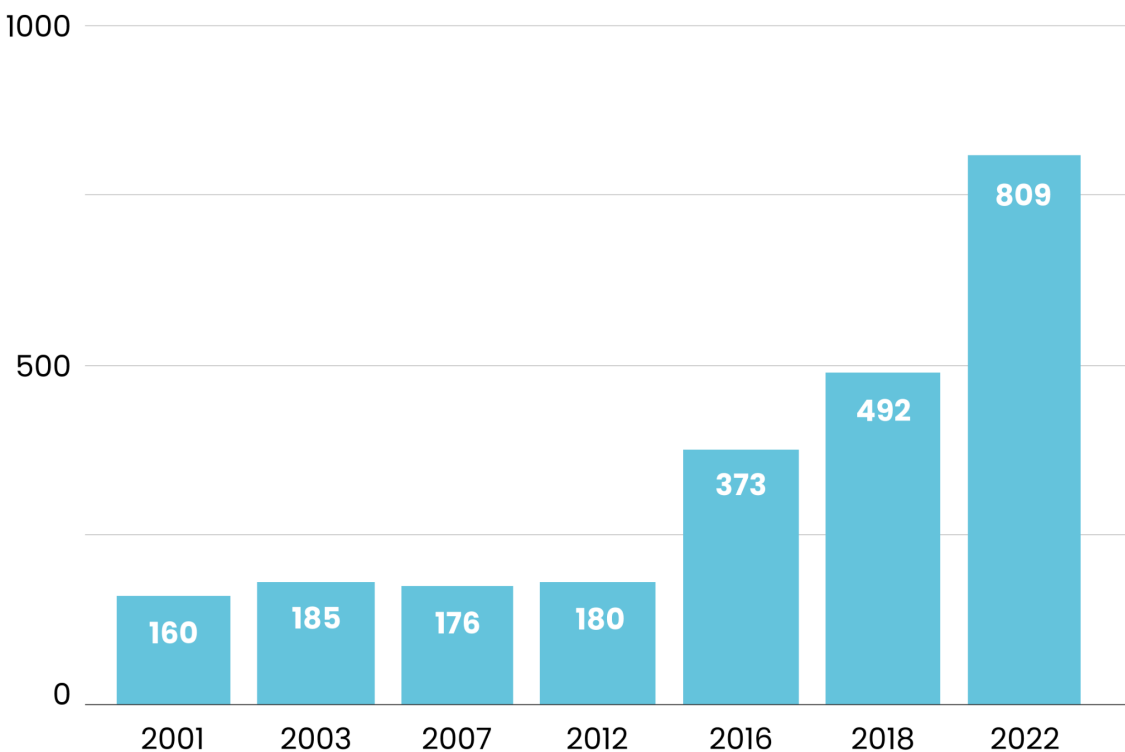


Figure 15: Hammersmith Bridge cycle counts, AM peak (Data: DfT, TfL and Possible).

We tried repeatedly to engage with the large private secondary schools near the bridge in Barnes to understand how the closure has affected pupils' journeys to and from school, but we did not receive any replies to our emails. Anecdotally, the number of pupils cycling and walking to these schools has seen a huge increase.

Hammersmith Bridge is open to cycling temporarily at the time of writing, and the micromobility hire company Lime reports that over 20,000 trips have been made on their e-bikes and e-scooters in the six weeks since the council reopened the carriageway to cycling on 13th February. When the carriageway finally reopens to cyclists permanently following the completion of the stabilisation works, it will become an extremely attractive and convenient traffic-free option for crossing the Thames; it is likely to function as a major trip attractor, boosting cycling levels on both sides of the river.

³¹ <https://maps.app.goo.gl/iXawrLsFKKmP9D3G6>

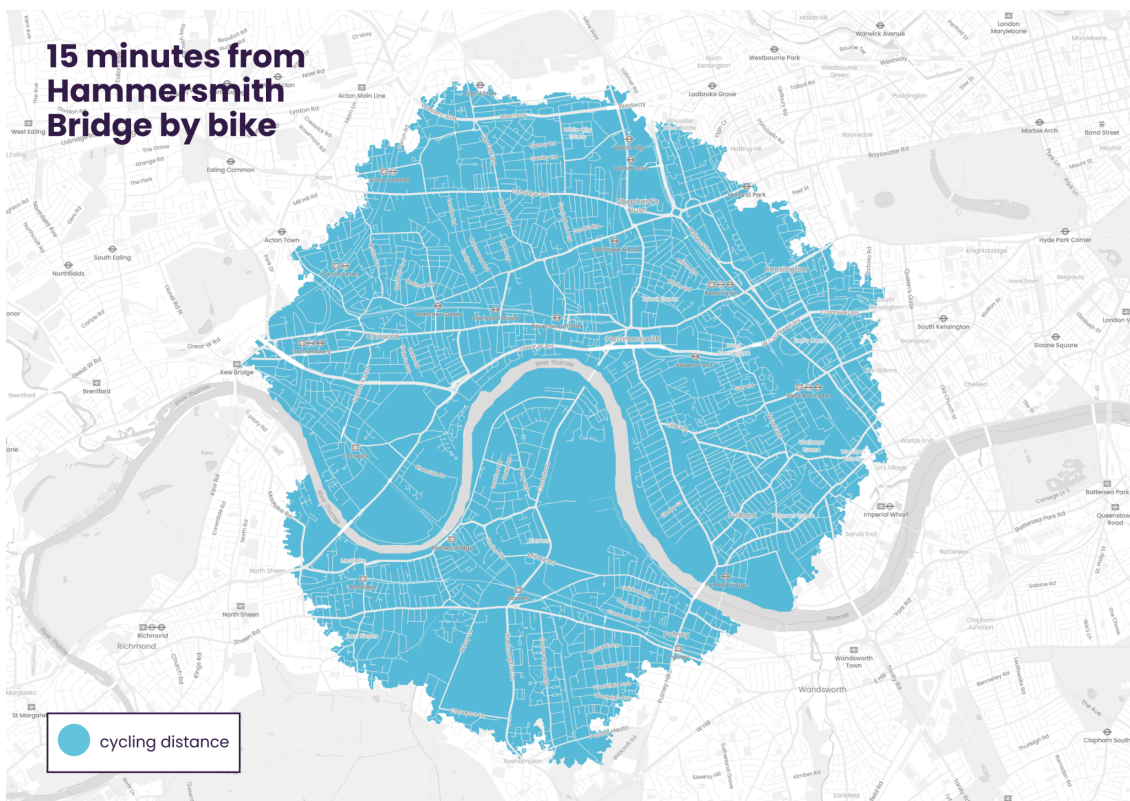


Figure 16: Isochrone of 15 minutes cycling distance from Hammersmith Bridge

What is the council proposing?



Hammersmith and Fulham council currently says it plans to erect a temporary double decker steel truss structure on top of the existing bridge, which will see motor vehicles using the top deck whilst pedestrians and cyclists use the lower deck.

The council states that this plan, developed by architects Foster & Partners and bridge engineers COWI, has “the potential to provide a quicker and more cost-effective full restoration solution”, allowing the parts of the bridge that need repair to be taken away and repaired off site at the same time as facilitating motor traffic to cross on the temporary structure. More detail on the proposed scheme can be found at the Hammersmith Bridge Restoration Project website³².

As reported to the government’s Hammersmith Bridge Taskforce set up to find a solution to the bridge situation, “the key benefit associated with the Foster/COWI proposal is the potential for the bridge to be reopened earlier to vehicles.”³³

We submitted freedom of information (FOI) requests to the council to try to understand the rationale behind this proposal. We hoped to review the business case or at least have access to certain sections, however this was rejected on the grounds of commercial sensitivities.

A subsequent FOI submitted in June 2023 revealed that the council had already spent £33.3 million on the bridge since 2019/20, including £3.2m specifically on “developing our plans for the full restoration of the bridge to all traffic”. This figure is likely to have risen substantially in the interim, and does not include a further £5m being paid by LBHF to gas company Cadent to re-route the gas main that runs over the bridge, in preparation for the full restoration works. LBHF also told us that, “We anticipate that two-thirds of these costs will be reimbursed by DfT and TfL, with LBHF costs recovered through a toll or road charging scheme so that this is appropriately funded by motorists who use the bridge.” If, as we expect, the scheme is never brought forward, it is unclear how LBHF’s costs for developing it can be recovered. By contrast LBHF told us they have not spent any money on exploring traffic-free alternative options for the bridge.

³² [Hammersmith Bridge Restoration Project, Hammersmith & Fulham](#)

³³ [Hammersmith Bridge Taskforce meeting 29 April 2021, Department for Transport](#)

In March 2023 LBHF held exhibitions to showcase the plans to local people. There was no information presented on the projected costs of the scheme, its expected impacts on: LBHF's extremely challenging climate goals, air quality in Hammersmith Town Centre or Castelnau in Barnes which was previously a perpetual traffic jam, or walking, wheeling and cycling trips across the river.

Consultants explained that cyclists would be required to dismount to cross the lower deck. Models illustrated graphically how the scheme would turn the road user hierarchy design guidance, which has walking and wheeling at the top and private cars at the bottom, on its head.



Photo: Images of architectural models from the public exhibition on the 'double decker' proposal, showing pedestrians and cyclists crossing beneath cars. (Possible)

The proposal would give physical expression to the figurative supremacy of the private car, literally elevating the motoring classes above the walkers, wheelers and cyclists obliged to make their way through the underbelly of the structure.

A warning from the past



Image: Hogarth Roundabout 'temporary' flyover (Possible)

West London's experience of other 'temporary' solutions to motor traffic problems on major arterial roads does not bode well. Just west of Hammersmith Bridge on the A4 is the Hogarth Flyover, installed in the 1970s as a 'temporary' solution to the traffic problems on Hogarth Roundabout. Remarkably similar to the Fosters proposal for the Bridge, it was erected using a cheap, rudimentary steel frame designed to last a few years while money was found for a more expensive, 'permanent' solution.

Nearly 50 years later, the flyover persists, and indeed was recently resurfaced and repaired, confirming the 'temporary' feature as a permanent one. Given the intractable misalignment of incentives between the different actors involved in Hammersmith Bridge, the danger of such a temporary solution being deployed here could not be any clearer.

Although it remains the formal position of the council, at the time of writing, the status of the 'double decker' proposal is ambiguous, with no mention of the scheme on LBHF's website since a blogpost in May 2023³⁴. No planning application has

³⁴ [We're working around the clock to fix Hammersmith Bridge, Hammersmith & Fulham](#)

yet been lodged by Fosters + COWI, and exploratory drilling for a civil engineering survey required to progress the plans has still not been undertaken.

Cars and the climate



Hanging over all of this are the climate goals adopted by the council, TfL and the DfT. Nationally, the expert consensus is that the UK's legally binding net zero 2050 target implies a minimum reduction in traffic miles of 20% by 2030, and much more than this in urban areas³⁵.

The Mayor of London Sadiq Khan has committed to achieving net zero for London by 2030. Modelling for the Greater London Authority in 2021 found that reaching this goal will require car traffic to fall, city-wide, by a minimum of 27% by 2030³⁶. This scale and pace of traffic reduction is unprecedented, and implies much greater ambition is needed for modal shift to walking, wheeling, cycling and public transport than the 2041 targets set out in the 2018 Mayor's Transport Strategy.³⁷

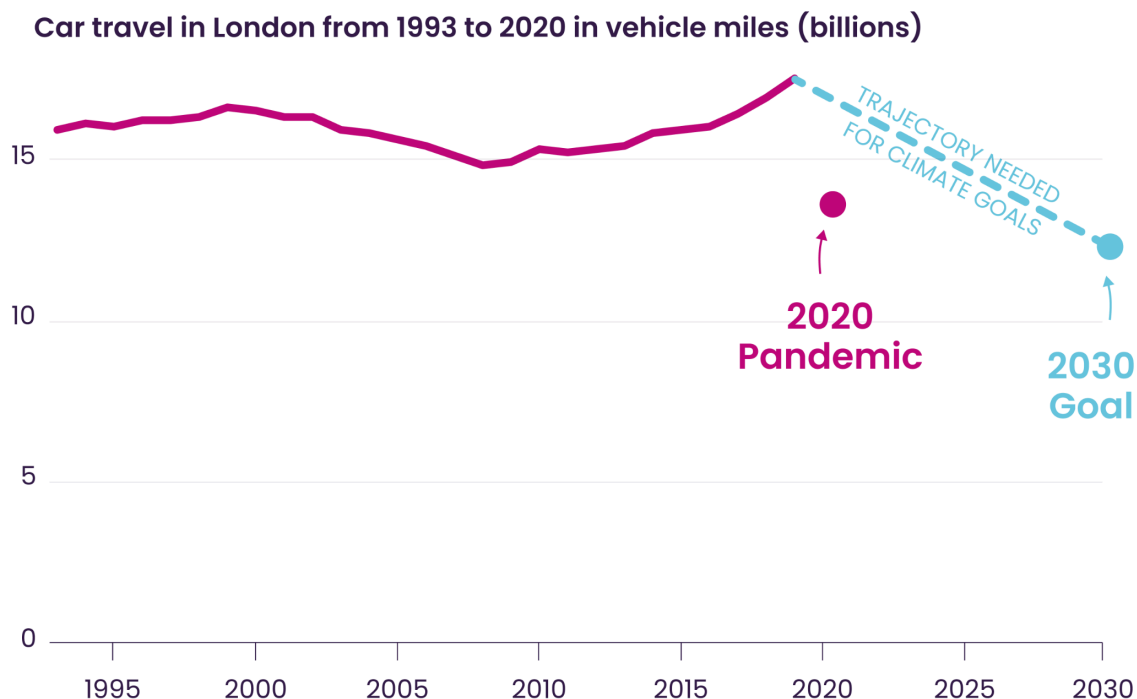


Figure 17: London must cut car travel 27% by 2030 to meet its climate goals (Data: TfL)

A recent study published in *Nature* by scientists at Imperial College's Grantham Institute found that if London adopted a decarbonisation pathway that is consistent with the UK's commitments under the UN Paris Agreement and disallowed

³⁵ [Briefing note – expert consensus that overall car traffic must fall rapidly to meet climate goals](#), Possible

³⁶ [London Net Zero 2030: an updated pathway](#), Greater London Authority, 2022

³⁷ [The Mayor's Transport Strategy](#), Transport for London

any offsetting, a much steeper reduction in car travel would be required: a staggering 84% by 2027³⁸.

Hammersmith & Fulham council declared a climate emergency in 2019³⁹, and like the London Mayor, committed to achieving net zero by 2030⁴⁰. LBHF told us they are aware of the London-wide 27% car mileage goal, but they have not yet adopted any formal targets for traffic reduction in the borough. The local Labour Party's 2022 manifesto pledged to produce a sustainable transport strategy⁴¹, but since winning power no progress has been made on this pledge by the administration.

Possible made a FOI request to understand how LBHF expects their Hammersmith Bridge proposals to affect their ability to achieve their Climate Emergency targets. They told us that their modelling shows that introducing a toll for drivers over the bridge would mean that "the 50% evaporation of previous traffic due to the bridge closure... will remain suppressed", but that they were unable to share the supporting data for this claim with us "as it is part of our legally privileged discussions with DFT and TFL.". LBHF added that "the roll out of Clean Air Neighbourhoods will also give us another additional and highly effective method to ensure that we meet our ambition." Unfortunately in May 2023 the council's Leader Stephen Cowan scrapped the next planned scheme in this rollout⁴². LBHF's cabinet approved the second scheme in South Fulham in March 2024, after three years of intensive community engagement, but the rest of the programme's future remains in doubt.

It should be noted that all of the local MPs and Council leaders we spoke to as part of this project told us they were committed to achieving London's stretching climate change goals – but did not believe that keeping Hammersmith Bridge closed to motor traffic was an appropriate way to pursue these goals. Typical comments included:

- "I wouldn't see this as an opportunity to have an experiment to see whether we can manage without a bridge here."

³⁸ [The effect of sustainable mobility transition policies on cumulative urban transport emissions and energy demand](#), Nature Communications

³⁹ [Climate and ecological emergency](#), Hammersmith & Fulham

⁴⁰ [H&F 2030: Climate and Ecology Strategy](#), Hammersmith & Fulham

⁴¹ [Rising to the Challenges of Our Time, Together](#), Hammersmith & Fulham Labour Councillors

⁴² [Council scraps LTN plans that triggered 'atmosphere of fear, suspicion and rage'](#), the Telegraph

- “If you were going to reduce road traffic across south west London, you would do it strategically, not just through random closure of one river crossing.”
- “If we are just diverting traffic over other bridges, causing traffic and congestion, that's not great. If we are preventing journeys that people really need to make then we wouldn't want to do that either.”
- “Talking about shutting bridges as a shortcut to net zero target is short sighted; focus needs to be on switching from cars to other forms of transport.”

However, the status quo is that there is no motor traffic crossing over the Thames at this location, and there hasn't been for five years. What is being pursued by local politicians constitutes a major road building project in inner London, costing hundreds of millions of pounds, in order to facilitate an increase in south west London's road network capacity. This is not a type or scale of investment consistent with intentions to deliver the steep reduction in car miles required by our climate change goals.

While it's easy to believe that traffic is a fixed volume and therefore developments like the closure of Hammersmith Bridge must inherently lead to elevated traffic volumes on alternative routes into London, this is not supported by the evidence. Academic literature (including a study which looked at what happened the last time Hammersmith Bridge was forced to close to traffic⁴³) has repeatedly shown that increasing road network capacity for general motor traffic always leads to a corresponding increase in motor traffic. Increasing road network capacity by 10% in the city in the absence of road pricing will lead to a 10% increase in traffic within a few years⁴⁴.

This principle is known as induced demand and although it can seem counterintuitive, it is well established in transport and urban planning circles. As Hammersmith & Fulham council's own Director of Climate and Transport put it recently:

“It's been an age-old problem in traffic management, the theory that if you build more roads, you can solve the capacity problem and make traffic flow when actually the reverse happens – it just generates more trips.”⁴⁵

⁴³ [Disappearing traffic? The story so far](#), Municipal Engineer

⁴⁴ [The Fundamental Law of Road Congestion: Evidence from US cities](#), University of Toronto

⁴⁵ [Cabinet meeting 4th March 2024](#), Hammersmith & Fulham

Calling for Hammersmith Bridge to be reopened to cars in order to solve the problem of too many cars on other roads in other locations in south west London is not the solution. Traffic jams cannot be solved through building more roads and decades of data has proven this true⁴⁶.

When it comes to traffic reduction, politicians almost always err towards 'carrots' over 'sticks', because the latter tend to be unpopular with some voters – at least when first introduced⁴⁷. Indeed, the local authority responsible for Putney High Street, Wandsworth Council's 2023-28 Air Quality Action Plan⁴⁸ commits to a diverse range of measures such as new cycle hangars, more EV charge points and tree planting – but does not mention the most effective and obvious approach to the problem, which would be to proactively introduce curbs on car use and motor traffic.

The only thing that is proven to reliably reduce car use and effect shift to other transport modes is curbs on car use⁴⁹. Incentives to change are also needed, but primarily to build consent amongst the public for disincentives to drive, i.e. to ensure people have adequate access to other high-quality ways to meet their mobility needs⁵⁰. Investment in cycle lanes and public transport tends to have no effect on car travel or vehicle miles driven unless it is also accompanied by deliberate measures directly targeting reducing the utility of driving – either by reducing the physical space and/or access available to cars (e.g. pedestrianisation, low traffic neighbourhoods (LTNs), bus lanes and bus gates, school streets etc.), or by increasing the marginal cost of driving (e.g. parking fees, congestion charges, clean air zones, etc.)⁵¹.

In this context, the dogged pursuit of opening Hammersmith Bridge to cars, no matter the cost, can be understood as a real-world repudiation of the hypothetical political commitments west London and its politicians have made to tackling the climate crisis.

⁴⁶ e.g. [National Pinch Point Programme – One Year After Evaluation Meta Analysis](#), Highways England

⁴⁷ [Riders on the Storm](#), Possible

⁴⁸ [Air Quality Action Plan](#), Wandsworth

⁴⁹ [Shifting towards healthier transport: carrots or sticks? Systematic review and meta-analysis of population-level interventions](#), the Lancet

⁵⁰ [How public engagement can support reducing car use](#), Centre for Climate Change and Social Transformations

⁵¹ [Switching to sustainable transport: a rapid evidence assessment](#), Department for Transport

What we did



Policy and literature review

We first reviewed all relevant climate, transport and active travel policy and strategy documents from the DfT, TfL, LBHF and LBRuT to understand the policy context surrounding the bridge's closure. We also read updates from the Hammersmith Bridge Taskforce, statements made in parliament about the bridge by ministers and local MPs and recorded in Hansard, LBHF officers' reports to cabinet meetings, and London Mayoral Questions and answers. We read press coverage around the closure, LBHF and LBRuT council news items and local stakeholder blogposts (eg the Hammersmith Society), written histories of the bridge and an academic study examining what happened to traffic the last time Hammersmith Bridge was forced to close⁵².

We also reviewed survey results from Barnes Community Association, LBRuT and think tank Fare City exploring local views about the bridge's closure and associated travel patterns.

Interviews with political stakeholders

Local politicians can be very effective barometers of local public sentiment towards issues of the day, not least because their mailbags are a fairly comprehensive repository of local complaints and grievances. A good MP, Councillor or Assembly Member will have a strong contemporary grasp of the challenges faced by their constituents, and are likely to have formed views on appropriate remedies to these challenges. This makes political interviews an ideal counterpart to quantitative analysis of relevant data sources, and the perfect starting point for our investigation.

We were therefore fortunate, and very grateful, to be afforded brief interviews with south west London politicians of all political stripes, on both sides of the river, each of whom was able to share a range of important insights into how the bridge closure had affected their constituents and the wider region.

⁵² [Disappearing traffic? The story so far](#), Cairns, Goodwin and Atkins 2002

Methodology

We sent requests for interviews to every relevant local political leader, including MPs, council cabinet members and London Assembly members. In total we received responses from 11 local politicians. Wandsworth's Cabinet Member for Transport, Councillor John Locker, and Chelsea & Fulham MP Greg Hands declined to be interviewed, and simply expressed the view that the bridge must be reopened to cars as soon as possible. The Leader of Hammersmith & Fulham Council Stephen Cowan declined to respond in any way, and instructed LBHF colleagues not to engage with us further on this matter.

Each of the other politicians listed below participated in a Zoom interview of around 45 minutes in which we asked a series of questions regarding what constituents write to them about in relation to the bridge, potential solutions to these problems, and their own views and preferences in relation to the bridge's future. Interviews took place at the end of 2021 and the start of 2022

Respondents

1. Andy Slaughter MP
2. Sarah Olney MP
3. Cllr Gareth Roberts
4. Cllr Steve Curran
5. Nick Rogers AM
6. Ruth Cadbury MP
7. Leonie Cooper AM
8. Fleur Anderson MP
9. Caroline Pidgeon AM
10. Cllr John Locker
11. Greg Hands MP

The learning from these invaluable interviews then informed the shape of the rest of the project, the stakeholders we engaged, the solutions we developed, and the content of this final report. All of the politicians reported that Hammersmith Bridge was a "doorstep issue", and had received high volumes of correspondence about the bridge from constituents since its closure, albeit across a gradient, with those representing constituencies on the south of the river feeling the most heat.

Findings

In as much as there was any degree of consensus between interviewees, it was that those who had previously depended on the bus to cross from south to north of the river were the worst affected group, and that the closure was causing serious congestion problems in neighbouring areas. All

interviewees also expressed deep frustration at the seeming inability of the relevant authorities to take forward a solution.

Freedom of Information (FOI) requests to LBHF and DfT

Because LBHF would not engage in constructive dialogue around this project, we had to resort to a long succession of FOI requests to obtain key information we needed to develop potential solutions. Chief amongst these was the need to establish what LBHF's engineering assumptions were about the maximum safe limit for the weight of a single vehicle crossing the bridge at the same time as cyclists, walkers and wheelers, once the stabilisation works currently underway have been completed. Following our third FOI attempt and a subsequent referral for internal review, on 16th May 2022 LBHF told us that the maximum allowable mass for such a vehicle would be three tonnes.

"Following the Stabilisation Works, consideration will be given to the interim reopening of the road carriageway to special vehicle(s) which, at the time of writing, would be restricted to 3T GVW."

We also ascertained via FOI that LBHF's Disabled People's Commission had not been consulted about the council's double decker proposals, and that the council had not spent any money exploring potential options for car-free futures for the bridge. LBHF told us:

"The Council is legally required to reopen Hammersmith Bridge to motor vehicles and therefore no options are under consideration which would not see the bridge reopen to motor traffic. Therefore, no money has been spent in this regard."

The Department for Transport also declined to disclose the LBHF business case for the double decker proposal, or to share the minutes or any notes from meetings about the bridge conducted between the Secretary of State for Transport Grant Shapps and the Leader of LBHF Stephen Cowan. They did however provide a categorical statement that LBHF is not legally required to reopen the bridge to motor traffic.

"I have met the secretary of state, and he did instruct me that we are legally obliged to open it [Hammersmith Bridge] and then ran through a list of things that would happen to us if we did not stick by our Highways obligations under the different laws he quoted to reopen the bridge."

Stephen Cowan, LBHF Cabinet meeting, 10th October 2022

"The Department has not given any legal instructions to London Borough of Hammersmith and Fulham ('LBHF') regarding the management of the bridge – officials and Ministers have been clear that LBHF is the asset owner and decisions on maintenance and repair are for it to take."

EIR Request, DfT response, 24th November 2022

Legal issues⁵³

To try to make sense of the legal situation here, we asked transport and infrastructure planning legal expert Ralph Smyth to investigate two relevant issues at hand: whether LBHF really could consider themselves legally obliged to reopen the bridge to cars; and what would be required in terms of regulatory dispensation to allow autonomous shuttles to operate a passenger service here.

On the question of LBHF's legal duties in relation to the bridge, they told us by FOI response that Section 285 of the Highways Act 1980 had been cited by the Secretary of State in his meeting with the Leader, and argued that this compels them to reopen the bridge to cars. However, the powers under S285 can only be exercised by ministers if all of its requirements are satisfied, specifically "in connection with any traffic order made or proposed to be made by him". Ministers have not made any such orders in relation to Hammersmith Bridge. The full advice we received is available on request, but its conclusion will suffice here:

"In short, rather than this being a question of law, it turns on simple facts: Hammersmith & Fulham claims that it is legally required to reopen the bridge, but this claim is contradicted by all available evidence."

The advice we received regarding legal issues around the use of autonomous vehicles is discussed in more detail below.

⁵³ Although Ralph Smyth is a trained barrister, he is currently non-practising and the guidance we commissioned from him does not carry the status of formal legal advice.

Transport data analysis

We obtained and analysed data from a wide range of sources to inform this project, including: TfL's initial impact assessment, and their automated traffic counters and bus ridership and telemetry data for the area; fire brigade response time data for the area; DfT traffic count data from points throughout the area; air quality data from monitoring stations throughout the area; traffic count data from traffic surveys commissioned by LBHF in South Fulham; and visitor and membership data from WWT.

Manual traffic counts

In February and March 2022 we worked with local volunteers to perform manual traffic counts at four of the road bridges crossing the Thames in this part of west London, in order to understand the composition of road traffic during the most congested periods.

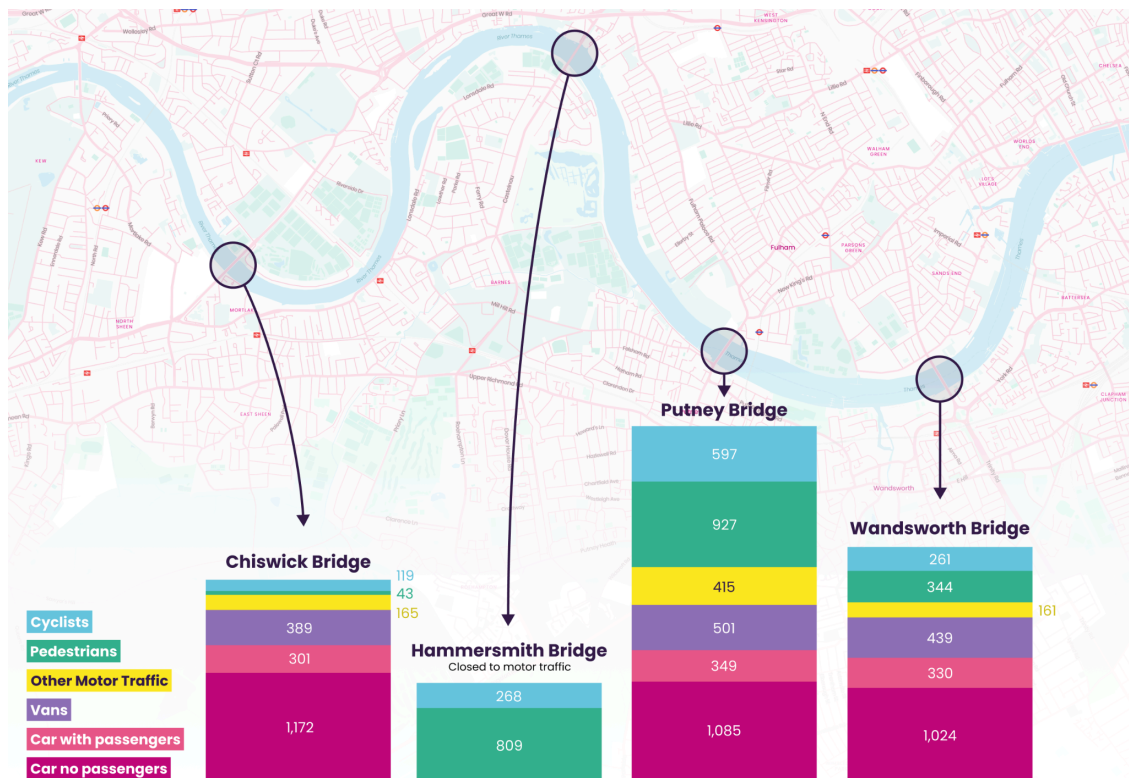


Figure 18: Bridge Traffic Counts, average hourly flow, weekday AM peak (5 Feb, 9 March, 15 March 2022)

The most striking finding from these counts was that over two thirds of motor traffic crossing the river in the weekday morning peak periods is single occupant private cars.

Focus groups

Based on the steer from our political interviewees that the group most in need of action was elderly and Disabled people in Barnes who do not own cars and cannot easily walk or cycle, in April 2022 we held two focus groups at the [Barnes Green Social Centre](#). Participants were members of Age UK Richmond whose lives have been impacted by the bridge closure and primarily residing in Barnes, Sheen and Richmond.

All residents but one were primarily public transport users or pedestrians. They were asked about the impact of the bridge's closure on their journeys, how they have adjusted since it's been closed, and what remedies might be most helpful for them to support their ability to reach destinations in a scenario where the bridge never reopens to motor traffic. Participants were also invited to discuss two scenarios, including the current proposal from Hammersmith & Fulham, and a series of draft design options put together by Possible for remediation.

The focus groups strongly confirmed the problems faced by older residents due to the loss of convenient buses to Hammersmith. Key issues raised were access to the wider public transport network – Barnes and Barnes Bridge railway stations do not have step-free access, unlike Hammersmith, and are on lines which terminate in Waterloo without crossing the river – and to appointments at Charing Cross hospital (although none of the former bus routes crossing the bridge actually stopped at the hospital). Participants also explained that Hammersmith was previously their most convenient major town centre; Barnes itself has very few amenities and no bank branches, while Richmond, Chiswick and Putney were all less accessible.

Surveys

A number of surveys were conducted across 2022 as an efficient and effective way of obtaining the views of stakeholders. We circulated surveys to the local private schools but were unable to get any response.

533 bus passengers

In February 2022 we conducted a survey of passengers using the 533 bus to gain their views of the route and the bus network as a whole, and carried out observations of boarding and disembarking during the morning peak period. The 533 was introduced to replace the services that previously connected Barnes and Hammersmith. It travels from

Castelnau past Barnes railway bridge, over Chiswick Bridge and along the A4 before terminating at Hammersmith Bus Station. The bus journey from Castelnau to Hammersmith now takes 35-45m, around ten times as long as prior to the bridge's closure. During the morning peak, passengers were mostly women and school pupils boarding for short periods. Most passengers began and ended their trips south of the river, and almost none made the entire journey between the termini. Extremely poor reliability in the form of excess waiting times was a significant concern for most passengers.

Expert stakeholder feedback on LBHF's 'double decker' proposal

In March 2022 Possible circulated a questionnaire seeking views about the 'double decker' proposal from expert stakeholder organisations involved in highways and urban design, Disabled people's access, heritage and active travel. Respondents were unanimously opposed, expressing a range of concerns⁵⁴. Representative comments on the design included:

- "The principal issue is the scheme assumes the bridge is needed for motor traffic and therefore the approach is framed in those terms."
- "This looks like a fantasy from the 1930s when the motor car was still an exciting symbol of the future."
- "A modern day carbuncle on the face of a much loved friend."
- "This bridge is not only a huge investment, it's in completely the wrong direction and will signal to children the triumph of the car above all else, both literally and experientially."
- "The creation of a second deck would be a hugely expensive way of facilitating motorised traffic, while creating very unpleasant cycling and walking conditions."
- "Creating capacity will increase demand, use, and ultimately lead to more traffic in and around the channel and area. This is a studied and verifiable phenomenon which a firm of architects should easily identify and be aware of. Thus this proposal may be seen as more for the benefit of the contractors than the local community."

⁵⁴ A full list of respondents can be found in the acknowledgements.

- “I believe far fewer people would choose to travel across by active means with vehicles, their noise and exhaust fumes overhead.”

Optioneering and design consultations

Micromobility and e-cargo bike logistics

Once we had a clear initial sense of challenges and local mobility needs we had a number of exploratory meetings with representatives of:

- PedalMe (cycle logistics firm)⁵⁵
- e-cargobikes.com (cycle logistics firm)⁵⁶,
- Lime (participating in London’s e-scooter rental pilot)
- Tier (also participating in London’s e-scooter rental pilot), and
- City Shuttle⁵⁷, the e-pedicab firm working with Richmond council to run a service over the bridge.

Our first goal was to understand how much passenger capacity could be provided using e-pedal assist cycle technology, and the answer was disappointing. We had hoped that it might be possible to tow a series of small carriages behind a powerful e-bike. Essentially due to legal restrictions on the motor power of e-pedal assist, alongside some physical mechanical limits to things like torque and traction of cycle tyres, it is not feasible to move more than four adults plus pilot in this way maximum. This means that pedicabs as a mobility solution can only really ever substitute for taxis to provide private journeys for the able-to-pay market, rather than offering a viable way to replace lost public transport connectivity.

City Shuttle previously provided a battery powered ‘velotaxi’ shuttle service across Hammersmith Bridge to destinations in Barnes and beyond in 2021. The ‘Quicab’ vehicles take design cues from London’s iconic black cabs and are fitted with phone chargers, bluetooth, cupholders, Wi-Fi, fold out desks and defibrillators. The return of the City Shuttle service is subject to approval from TfL due to licensing issues, but has strong support from Richmond’s political leaders as well as local people. This will be an invaluable complement to active travel options, although it does not solve for the low-income, low-mobility group most badly affected by the bridge’s closure.

⁵⁵ [PedalMe](#)

⁵⁶ [e-cargobikes.com](#)

⁵⁷ [City Shuttle](#)

Finally we considered the scope for micromobility hire to address the gap. Tier told us that in the first period of their e-scooter trial scheme with Richmond (7th June - 26th September 2021) there had been 20,000 trips made on their e-scooters - 4000 of these over Hammersmith Bridge. As the bridge was still completely closed until 17th July, this indicated that e-scooters were being enthusiastically adopted by Barnes residents as a means to cross the river.

We explored whether hire companies could also provide adaptive vehicles in order to expand their offer to include those with mobility impairments that preclude them from using regular e-bikes or e-scooters. Lime has been experimenting with ways of doing this over recent years⁵⁸, and currently offers a delivery-to-home adaptive vehicle hire service in London ('Lime Assist') which could be an effective solution for some Barnes residents to cross the bridge in future⁵⁹. However, whilst Lime hire is highly convenient and a valuable addition to London's transport ecosystem, it is not a cheap travel option. Unless hire could be subsidised in some way it is unlikely to be a suitable substitute for bus journeys by residents who normally rely on their Freedom Pass to get around.

We also reviewed adaptive vehicle options available on the UK market for personal transport, to assess the scope for a community-owned hire fleet as a more affordable alternative. Most mobility scooter models are unsuited to being stored on-street or to the rigours of life as a hire vehicle, but we did identify one potentially viable approach, detailed below.

Electric and autonomous shuttle providers

Once we had established the limitations of micromobility options over the bridge, we began to contact makers of lightweight electric and autonomous vehicles (AVs).

UK shuttle makers CarryWay produce lightweight vehicles which do not exceed two tonnes weight when fully loaded, are fully electric, and can carry up to six passengers (including a driver), or four if configured with a wheelchair lift⁶⁰. These N1-class vehicles could potentially be a good option for local community transport providers such as the FISH centre⁶¹ to offer a dedicated shuttle service for elderly and Disabled residents to Charing Cross Hospital via the bridge,

⁵⁸ [These 7 new accessible vehicles let people with disabilities access micromobility](#), Fast Company

⁵⁹ [The Lime Assist Program](#), Lime

⁶⁰ [Esagono Geco Shuttle](#), Carryway

⁶¹ [Fish](#)

but due to their limited capacity and high labour costs to run they cannot substitute for lost bus provision.



Photo: Carryway 'Geco' shuttles (Carryway)

We spoke with a number of different AV companies over the course of the project. Westfield (now bought by Evie⁶²) AVs are in use in the UK at Heathrow Terminal 5, and they supplied a sample six-passenger pod to showcase at the first of our community drop-in events in Barnes.



Photo: Ohmio shuttles in Auckland, New Zealand (Ohmio)

We eventually settled on New Zealand based AV startup Ohmio as our preferred provider, on the basis that their core AV offer gave the most passenger capacity possible within the weight constraints on the bridge, and that they were open to being flexible around vehicle specifications, in order to provide the vehicle we need rather than the vehicle they have⁶³. We worked closely with Ohmio on the specifications for our final proposal (detailed in the next section).

⁶² [Evie Autonomous](#)

⁶³ [Ohmio](#)

Hammersmith BID (Business Improvement District)

In 2023 we attended a Hammersmith BID Transport Forum session to engage local businesses with our alternative proposals for the bridge. The Hammersmith BID already operates a 'Parcels not Pollution' scheme for local businesses to obtain subsidised use of e-cargo bikes for local deliveries.

⁶⁴ It has not been able to operate over the bridge due to the carriageway remaining closed to cyclists but there is clear potential for this once stabilisation works are complete. We also explored options with e-cargobikes.com, which runs the service, for local breweries to use a bespoke design for 'drey' e-cargo bikes to restock their pubs with beer kegs, although we found that this would face some unique logistical challenges.

Wildfowl & Wetland Trust (WWT)

We liaised with the manager of the WWT Centre, Barnes' only major tourist attraction, to understand how they had been affected by the bridge closure and what would be most helpful for them in supporting visitors to come by modes other than private cars. The WWT insights team then sourced data for us showing the bridge closure had negligible impact on visitor numbers (see section on impacts above). They told us that if TfL's Santander cycle hire scheme could be extended into Richmond they would love to host a dock and have the space for it, and that the reinstatement of a community shuttle bus bringing passengers from Barnes railway station would make a big difference to supporting non-car access to the centre.

Community engagement events

We held numerous community engagement events in 2022 and 2023.

The first event ('Bridging the Future') was held in April 2022 adjacent to the Barnes Farmers' Market. The aim of this event was to obtain feedback from local people on the initial proposal we had developed for an autonomous shuttle service. Alongside exhibition boards setting out our draft concept, we paid for an example 'pod' to be shipped to site so people could experience being inside it (whilst it was stationary), as well as free PedalMe cargo bike rides and Tier e-scooters.

⁶⁴ [Parcels Not Pollution extended until April 2025, Hammersmith Bid](#)



Photo: Barnes residents exploring the Westfield pod (Possible)

Possible also surveyed local visitors to our drop-in engagement event in Barnes in April 2022 about LBHF's 'double decker' proposal. 52% of the 47 respondents thought the proposals were "very bad" with only 8.7% ranking them "very good", and 75% of respondents chose our alternative proposal over H&F council's (15% didn't choose either). The remaining 10% who preferred the Council's proposal often cited the need for buses to cross the bridge and reconnect Barnes with Hammersmith. Possible also hosted an exhibition stall at the Wandsworth Bridge Road Association's spring fayre later in April 2022; and held an invite-only event on Hammersmith Mall for residents living in the immediate area around the North end of the bridge in July 2022. Both events saw our initial ideas equally well received.

The findings from our community consultation events further improved our understanding of mobility needs in the area and helped to refine our proposed solutions. There was a lot of appetite in communities on both sides of the river for 'out of the box' thinking to overcome the impasse at the bridge,

and many people directly told us that they no longer felt reopening it to cars was the right option.

Crucially there was a clear consensus amongst visitors that simply trying to bridge the gap between the bus stops on either side of the river was the wrong approach. People did not welcome the prospect of a multi-stage journey that would need them to board a bus to the south side of the bridge, disembark, wait for a pod, cross the bridge, disembark again and then wait for another bus – particularly as the key target destination is Hammersmith Town Centre, just a few hundred metres further on. Residents were clear that the main public transport need for Barnes was a direct connection into central Hammersmith over the bridge. Another key piece of feedback was that the model of pod we showcased was too small, and a larger capacity vehicle would be better, particularly for wheelchair users and carers.

In May 2023, we showcased our final proposal at events in Barnes (at the farmer's market), Hammersmith (at the Riverside Arts Centre) and Wandsworth Bridge Road (at the Spring Fayre). We invited the public to have a look at our final proposals but also the data and evidence that informed them, including the opportunity to experience our proposals in an immersive virtual reality environment. These events caught the attention of local and national media outlets including the BBC, the Independent and the Evening Standard. The reception of our proposal was overwhelmingly positive – so much so that others in the local community have also taken up the campaign through their own events and communication channels to advocate for our proposals to become a reality.



Photo: sticker vote board from community drop in exhibition on our proposed solution.

We also conducted surveys at our public engagement events to capture the views of attendees, especially their thoughts on our proposal vs the current double decker proposal being taken forward by LBHF. We used Google Forms to capture detailed views from those who had them, and asked everyone to place a sticker on their preferred option before leaving.

Public polling

In March 2023 we commissioned polling company Survation to survey Londoners' preferences for the future of Hammersmith Bridge. Half of respondents preferred our basic proposition, with just over a third preferring LBHF's.

Do you think that Hammersmith Bridge should be:

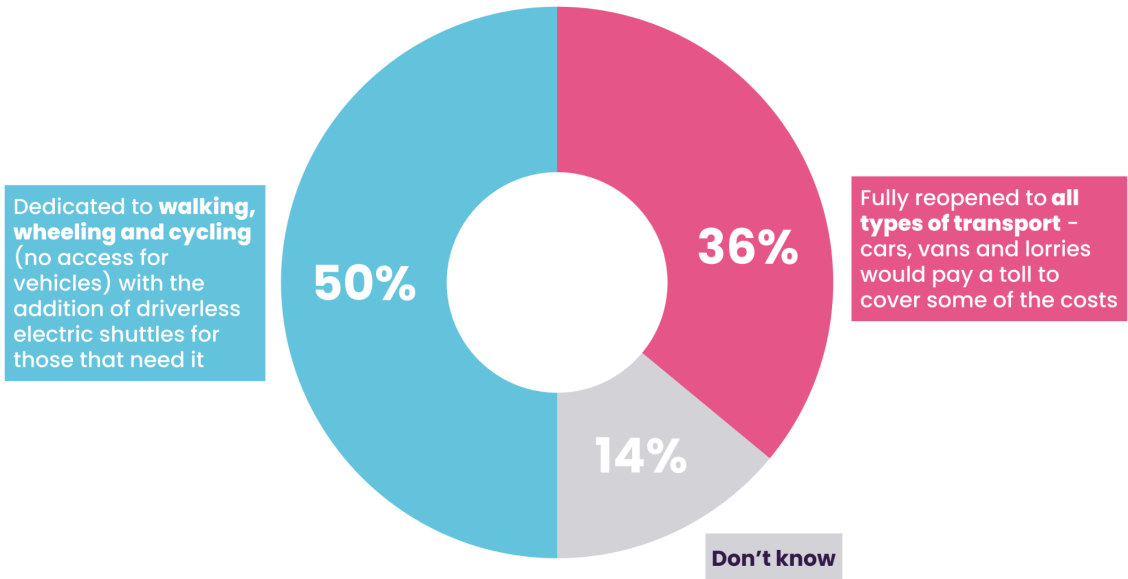


Figure 19. Survey on the future of Hammersmith Bridge. Survation asked 1,048 adults living in London, 10-15 March 2023.

A car-free Hammersmith Bridge



Photo: 3D visualisation of our podway and cycle lane proposal for the bridge. (Possible)

Summary

Our final proposal for the future of Hammersmith Bridge envisions a car-free crossing that delivers the connectivity local communities need as well as preserving the heritage value of this iconic landmark. Our vision would see Hammersmith Bridge reimagined for the 21st century, as a world class active travel facility that truly puts pedestrians and cyclists first, while deploying groundbreaking transport technology for those who cannot walk or cycle in a way that allows the full Victorian splendour of the bridge to shine through.

Informed by over a year and a half of intelligence gathering and iterative development, our transport planner and director of innovation worked closely with chartered highways engineer and walking and cycling design specialist Mark Philpotts and AV pioneers Ohmio to develop a detailed proposal for remodelling the public realm around the bridge and providing a passenger service reconnecting Barnes residents with central Hammersmith. We then worked with 3D artist Mark Summerfield to produce a virtual model of the plans and the visualisations shown here.

We also developed a series of related recommendations for what changes should be made to active travel and public

transport provision in the wider area, and some further potential remedies to the traffic blight experienced by neighbouring communities.

Ensuring that we maximise connectivity while minimising the use of private cars, here are our fuller findings and proposals for local transportation options.

The pods proposal

Please visit www.hammersmithbridge.solutions for a fully interactive 3D immersive experience of our design proposals for the bridge.

A 'fly through' video of the scheme is also available⁶⁵.



Photo: 3D visualisation of our podway and cycle lane proposal for the bridge, aerial view from the river. (Possible)

Attempting to provide for the maximum passenger transport capacity within the very low weight limit which will apply on the bridge after the stabilisation works are complete is an optimisation challenge. Taking all factors into account, the best option for restoring lost public transport links over Hammersmith Bridge without having to spend hundreds of millions rebuilding it is to use lightweight, electric, autonomous shuttles – aka 'pods'.

⁶⁵ [Hammersmith Bridge fly-through video](#), Possible

Pod plan in practice



Photo: 3D visualisation of the north terminus of the route beneath Hammersmith Flyover. (Possible)

Working with our project partners, Ohmio, we developed an outline passenger service model as follows:

The pod service will run in a dedicated lane, separated from cycles, pedestrians and general traffic, between two termini, one at the junction of Lonsdale Road and Castelnau in Barnes, and the other opposite Hammersmith Apollo on Sussex Place.



Photo: 3D visualisation of the south terminus of the route at the junction of Castlenau and Lonsdale Road. (Possible)

There will be a third stop at the mid-way point, at a new pedestrian plaza at the north end of the bridge, which will also host a kiosk housing the on-site operational and safety personnel overseeing the system.



Photo: 3D visualisation of mid way stop, the pedestrian plaza and the kiosk hosting a coffee outlet and the pod operator. (Possible)

The speed of the pods will be limited to 15.5 kmph (9.63mph), in line with current recommendations for such vehicles within

public spaces. This is slightly faster than the average London bus speed of 9.3mph⁶⁶.

The total journey from the Hammersmith Apollo terminus to the Barnes terminus will typically take between five and six minutes to complete, including one mid-way stop at the north end of the bridge, and short waiting times in the passing places to cross the bridge section. The fastest journey times, outside of peak periods, will be just under four minutes.

There will be 10 pods in the overall fleet. Each pod can carry up to 10 passengers, or up to seven passengers plus one passenger using a wheelchair or a pram.

There will be eight pods serving the route, working to a scheduled timetable. During peak times pods would run continually, with a pod crossing the bridge in one direction while another waits to cross at any given moment.



Photo: 3D visualisation of the pod stabling and charging station beneath Hammersmith Flyover. (Possible / Vizable3D)

Two pods will be on charge and on reserve in case of faults so there are no interruptions in the service. They would be

⁶⁶ [Buses performance data](#), Transport for London

parked under the flyover in a lay-by ready to deploy if there's issues with any of the others.

A pod should depart from each terminus every two to three minutes during peak times. They cannot run more frequently than this because the bridge itself is the bottleneck – the weight limit means that only one shuttle will be able to cross at a time, at the fairly low speed of 9.63 miles per hour.

Outside peak periods pods would run less often – perhaps on demand via a button to call a pod like those found on Pelican crossings. The maximum waiting time for a pod would be three minutes even outside of peak times.

Onboard security cameras in each pod allow the system operator to monitor passenger safety and communicate with passengers via telecom in the event of any issues. The safety operator can also take manual control of vehicles if necessary.

There is the potential for the service to become overcrowded during the busiest periods, such as if, for instance, the weather is very bad. This could lead to longer waits to board a shuttle. In this instance, priority will be given to passengers with mobility issues.

As the pods are automated they are easy to reprogramme. A pilot scheme would continually analyse their use to ensure that they are being deployed in the most efficient way.

Bespoke onboard systems will detect if pods are overladen with weight and prevent them from departing stops if they are, to ensure safe crossing of the bridge.

This service model would enable the transit of between 235 and 282 passengers per hour, depending on how well we can optimise the bridge crossings. This is more than the estimated share of bus passengers with additional mobility challenges that used to cross the bridge before it closed to motor traffic.

We propose that the pods for the shuttle service would be integrated into Transport for London's public transport system, enabling passengers to tap in with an Oyster card or contactless payment. If the pod trip was part of a longer bus journey, there would be no additional charge as per TfL's "Hopper Fare" scheme⁶⁷.

⁶⁷ TfL has not yet been involved directly in developing our proposals, but they have said they would be happy to work with us to explore integration with wider public transport services if Hammersmith & Fulham Council were to approve a full feasibility study for this solution.



Photo: 3D visualisation of the south terminus of the route at the junction of Castlenau and Lonsdale Road, aerial view. (Possible)

Public transport network connectivity between Barnes village centre and Hammersmith Station is substantially restored via onward connections with buses (routes 33, 209, 419, 485 and 533) at the Castelnau and Lonsdale Road Junction's Barnes terminus, and via Hammersmith bus and tube station (Piccadilly and District lines) which are a 2m and 3m walk respectively from the Hammersmith Apollo terminus.

This would mean an overall journey time between Barnes high street and Hammersmith station of 12-18m, providing a more attractive alternative to the current route 533, which typically takes 35m to travel between these destinations. It will also offer a quicker connection than the current fastest public transport option for this journey, which is to take a 6m bus trip to Lonsdale Rd and then a 15m walk the rest of the way.

On the ground - the pod route and associated highways redesign

Working with highways engineer Mark Philpotts, we developed the following plans for remodelling the road layout and public realm around the bridge to support the podway scheme as well as improvements to active travel provision.

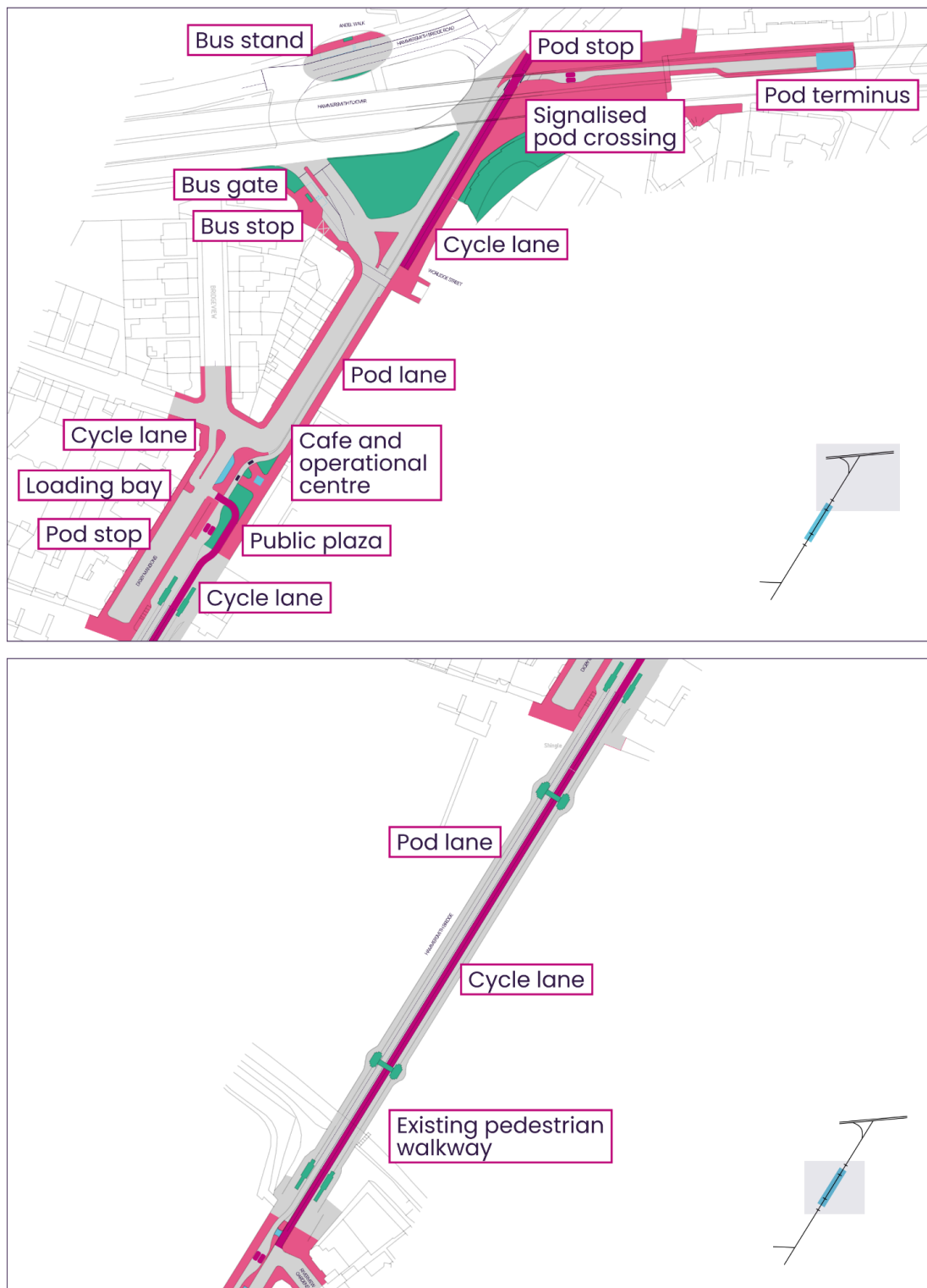


Figure 20A: Site plans for remodelling the road layout around Hammersmith Bridge.



Figure 20B: Site plans for remodelling the road layout around Hammersmith Bridge.

Why Pods?

Weight considerations

Standard multi-passenger vehicles like minibuses all exceed the 3 tonne weight limit for single vehicles crossing the bridge post-stabilisation works stipulated by LBHF's bridge team, while electric versions weigh substantially more. However, Ohmio's autonomous vehicles (AVs) can be 'lightweighted' using design specifications optimised for weight, such as using the smallest battery size possible and including 'opportunity charging' for the pods at their passenger stops. These measures would enable an Ohmio pod to be configured to carry up to ten passengers (or seven including a wheelchair user) within the weight constraints. Because AVs do not require a driver, this frees up vital weight and space on board for an additional passenger.

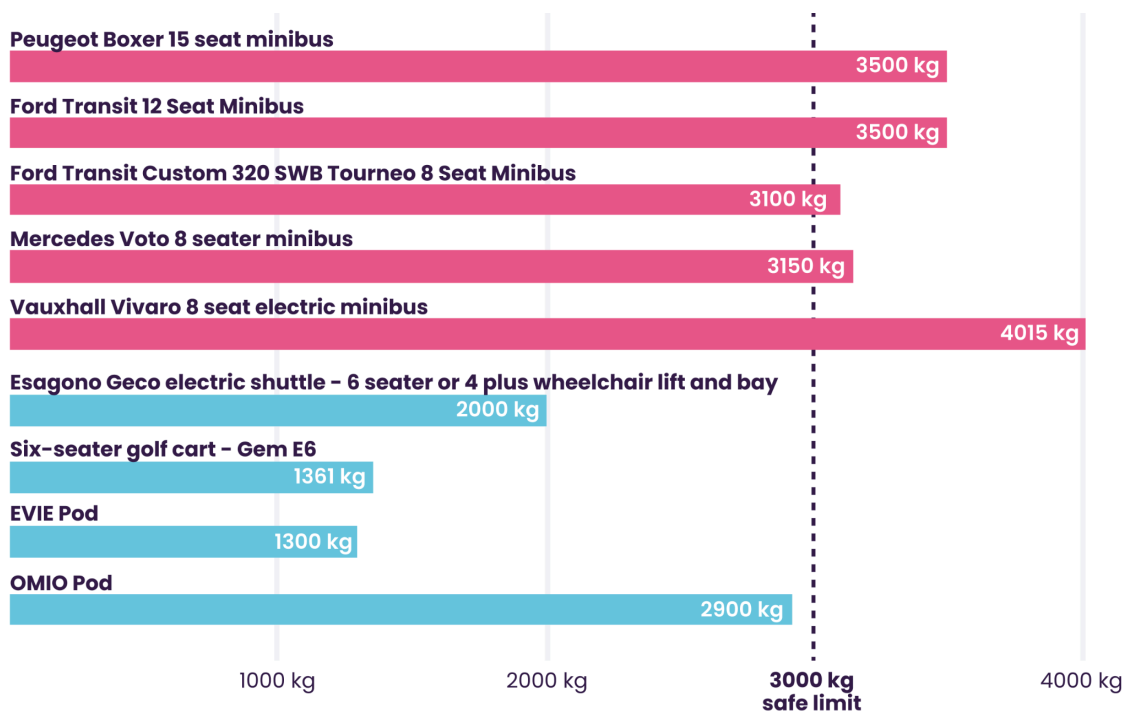


Figure 21: Weights of different vehicles

Operating cost considerations

Up to two thirds of the operating costs of running a bus service are comprised of labour - principally, drivers⁶⁸. Double-decker London buses typically have a passenger capacity of 87, while the most common single deckers can carry 60 passengers. The costs of a bus driver are only marginally higher than those of a minibus driver, meaning an

⁶⁸ [Bus Services after the Spending Review](#), Parliament.UK

eight seater minibus has labour costs that may be ten times as expensive per passenger as those of a double decker.

Due to the weight constraints on the bridge, the maximum number of passengers that can be moved across it by shuttle at any given time is ten. It is not possible to deliver a commercially viable service model under TfL's existing fare structure if each shuttle requires a driver, and we view this scheme as only being viable if it is fully integrated into TfL's wider public transport system. We therefore conclude that driverless operation is a prerequisite for the success of a mass transit approach here that relies on the use of small, lightweight vehicles which each have very limited passenger capacity.

Using electricity as a fuel source for passenger transport also offers large cost savings over diesel⁶⁹.

Capital cost considerations

We obtained indicative up-front costs for our scheme from our expert partners in early 2023, although these costs will have risen in line with inflation in the interim. These comprised £3 million for the purchase of 10 pods, alongside £3.7m on the highways remodelling required and another £0.5m on the public realm enhancements associated with the scheme.

We were also advised by the bridge engineers responsible for the stabilisation works, Mott Macdonald, that if the pod scheme were to become the permanent solution here, this would likely require some additional engineering works to the bridge over and above the stabilisation works already underway. Costing these additional works would require a full feasibility study, but in any case they would be no more than a fraction of the £250m+ being sought for the full restoration works to return general motor traffic to the bridge.

Legal considerations

Autonomous vehicle technology is still in a relatively early stage of commercial deployment and the regulatory framework which governs their use on public highways is still under development. Possible sought expert advice on how best to approach our scheme design to ensure it could operate legally.

The present rules mean that without special ministerial dispensation, AVs can only run without drivers on private land, meaning driverless buses are still required to carry an onboard 'safety driver' or steward to ensure passenger safety. The Automated and Electric Vehicles Act 2018 enables

⁶⁹ [Economics of Bus Drivelines, Zemo](#)

the Secretary of State to approve initial deployments of self-driving vehicles "in at least some circumstances or situations, on roads or other public places in Great Britain". These provisions are broad, and enable ministers to approve AVs for specific use cases with tightly defined conditions.

The existing road layout around Hammersmith Bridge lends itself well to the creation of a dedicated lane in which pods can run separately from other road users. The entire length of the proposed podway route from Barnes to Hammersmith features crossings for people walking and cycling but not motor traffic driving across, and it is unproblematic to limit pod speeds on the route to 15.5kph. Transport and planning legal expert Ralph Smyth advised us that:

"This very limited operational design domain is fundamentally different from a self-driving car operating across the everyday road network. So it poses fewer challenges but also excellent opportunities for learning."

The government is keen to advance driverless vehicle technology in the UK, and in November 2023 set out plans for a new Automated Vehicle Bill to facilitate this⁷⁰. We are therefore confident that it would be possible to obtain ministerial approval for the proposed podway over the bridge under the current rules, or deliver it without specific ministerial consent under the new legal framework proposed in the upcoming Bill. Indeed the podway proposed for Hammersmith Bridge would be far less risky and complex than proposals to run autonomous buses on an existing road that are already moving forward quickly⁷¹.

⁷⁰ [New laws to safely roll out self-driving vehicles across British roads](#), Department for Transport

⁷¹ E.g. [UK government backing helps launch world first self-driving bus](#), Department for Business, Energy & Industrial Strategy, Department for Transport, Department for Science, Innovation and Technology

Beyond the pods



The pods service will substantially address the need to reinstate public transport solutions for low-income, low-mobility residents, but the proposed service is by no means a complete solution to the problems experienced across the region as a result of the car-dominated transport system.

We have therefore assessed how other sustainable travel options in the area should be improved to support local mobility needs at the same time as meeting London's climate goals and alleviating peak time congestion at pinch points on local roads. Attractive alternatives can reduce the demand for cross-river car journeys in south west London altogether, bringing a host of co-benefits to local communities.

Walking and wheeling

Hammersmith Bridge has always been widely regarded as a bridge with "Victorian splendour". However the pedestrian environment on the bridge and its approaches are in need of improvement. Currently pedestrians walking or wheeling towards the bridge are forced to use only the pavements whilst large areas of roadspace remain dedicated to the very few motor vehicles that use the route to access the side roads. This can lead to congestion on the pavements especially at the bridge approach points where many thousands of pedestrians crossing the bridge each day must use the walkways that are currently often shared with cyclists, which further adds to congestion.

To ease congestion our design ensures that pavements are at least 2 metres wide with significant increases at main congestion points where possible. The removal of motor traffic on Hammersmith Bridge enables the bridge to be used by the autonomous pods and cyclists, and this in turn enables the walkways on the bridge to be used solely by pedestrians. Additionally new planting with sustainable drainage is placed between the carriageway and footways on Castelnau between Lonsdale Road and Riverview Gardens, alongside a green-roof covered shelter at the pod terminus.

Further planting including new street tree cover, sustainable drainage and improved landscaping will be installed at Hammersmith Bridge Road roundabout.



Photo: 3D visualisation of intersection of Hammersmith Bridge Road where it meets the flyover. (Possible)

We also plan for a public realm scheme at the north end of the Hammersmith Bridge, creating a new plaza that will provide a public space for people to enjoy its beauty and that of its surroundings. The plaza will have improved landscaping including large planted areas and trees, seating and a podway stop.



Photo: 3D visualisation of mid way stop, the pedestrian plaza and the kiosk hosting a coffee outlet and the pod operator, aerial view. (Possible)

The plaza will feature a cafe kiosk that is based on the iconic green London cab driver refreshment kiosks. This kiosk will also house an operational room for the pod system's on-site operators. Loading bays and taxi ranks are also incorporated near the plaza for surrounding businesses and easy access to the bridge.

Buses

The closure of Hammersmith Bridge to motor traffic in 2019 has inevitably led to changes to the local bus network. Before the bridge closure, six daytime bus routes crossed Hammersmith Bridge (33, 72, 209, 283, 419, 485). Currently the only bus service between Hammersmith and Barnes is route 533 which, although invaluable, takes a highly circuitous route via Chiswick Bridge. The proposed pod service would run to complement the current route 533 between Hammersmith and Barnes, not replace it, but this route is not seen as sufficient to meet local mobility needs. In addition, the reduction of routes between Hammersmith and Barnes to just one bus route has led to increased bus transfers and overall longer journey times for bus users. We therefore propose the following changes to the local bus network:

- The extension of route 22 into Barnes Pond from Putney Common along the current night bus route N22. This will provide Barnes with access to central London, and reduce journey times exacerbated from the bridge closure. A further extension to Sheen would also enable

connections to routes 337/493 connecting Sheen with central London.

- Converting route 533 and other routes serving Barnes into double decker routes. Buses can be full especially at school closure time. An alternative to this would be to have double decker workings on these routes at school opening and closing times.
- Routes 533 and 209 duplicate each other between Castlenau/Lonsdale Road Junction and Barnes High Street towards Mortlake. Route 209 should be rerouted to do an anticlockwise loop in Barnes, continuing along Lonsdale Road to rejoin the route at Barnes Bridge station. This will result in routes 533 and 209 being a clockwise and anticlockwise circular route in Barnes. This will also provide a westbound service along Lonsdale Road.
- Bus connections to Hammersmith station were important to those with mobility issues as it provided step-free access to the tube. There are no alternative stations within reasonable distance with step-free access. To help alleviate this issue route 493 should be restored to its former pre-2020 routing past Richmond Station (which has step-free access). This will enable those in Sheen to connect to a step-free station.
- Extend route 9 from Hammersmith bus station to Hammersmith Bridge north end. This will improve links to High Street Kensington and central London for those in the immediate area around Hammersmith Bridge. Our engagement events have also highlighted the need for this extension should be well publicised as the current route 72 link between Hammersmith bus station and Hammersmith Bridge is not well known.
- Introduce bus stops at the centre of Putney common to allow interchanges between routes 33/419/265/969 and the 378/485 at the Rocks Lane and Mill Hill Road junction.

Considerations also need to be made for residents from further afield areas such as Sheen. The curtailment of route 33 to Castlenau has meant the loss of a connection to Hammersmith. This has greatly impacted those who require step-free access to tube services as they can no longer access Hammersmith station without transferring buses.

Additionally, whilst we have not proposed any changes to the current route 533, our survey of 533 bus passengers has shown that reliability remains a key issue. No other issue such

as the routing of the bus or its frequency was cited as often as reliability. This survey was undertaken in August 2022, before the route changed operator to Go Ahead. It is hoped that the new operator may have been able to address reliability issues and we propose that the route reliability is monitored.

Accessibility to buses was also raised at the focus group. Some focus group participants stated that they struggled with boarding buses at school opening and closing times due to overcrowding. This makes boarding the bus difficult for those with mobility issues. This further strengthens the importance of double decker buses on routes serving Barnes, at least at school opening and closing times.

Travel to Charing Cross Hospital

Travel to Charing Cross Hospital was a key concern raised in our engagement events and focus groups. To reach Charing Cross Hospital from Barnes has always required a change of buses. However this was often done at Hammersmith, prior to the bridge closure, with four routes (190, 211, 220 and 295). Now, a longer journey and bus transfer has to take place via Putney Bridge where only route 220 connects the hospital to Putney Bridge. For bus users in Barnes and East Sheen who do not live along the 378 bus route they may be required to make two bus transfers to reach Charing Cross Hospital.

We propose to extend route 378 from Putney Bridge Station to Charing Cross Hospital and onwards to Hammersmith Bus Station. This will provide better connections to Charing Cross Hospital but also an alternative route to Hammersmith for Barnes and Mortlake residents. Hammersmith is a key destination for other purposes besides onward tube journeys. For example, our route 533 observations in February 2022 showed that a higher number of passengers alighted the bus at Hammersmith Bridge road bus stop than Hammersmith bus station which suggests that the town centre is a key destination for bus 533 users. Additionally the extension of route 378 to Hammersmith will provide additional capacity between Hammersmith and Putney Bridge, offering relief to route 220 which is the only route between the two town centres.

Trains

Currently, many people with mobility issues who need to access the tube at Hammersmith need to make an additional bus transfer to route 533 which takes a longer route via Chiswick Bridge. Therefore, we propose that the stations at Barnes and Barnes Bridge are made step-free.

This will open up an alternative route into central London for those with mobility issues. Additionally, for those who prefer access to the tube network, we also call for step-free access at Putney Bridge station which is served by route 378 from Barnes and Mortlake. This will provide an alternative interchange to Hammersmith and may unlock faster journeys into central London.

Ultimately, we support the Mayor of London's ongoing ambition for London's commuter rail routes to be passed over to TfL control ('metroisation')⁷²; experience shows that this will result in improved passenger service provision and better integration with the rest of London's public transport network, boosting ridership and modal shift from cars.

Cycling

Prior to the closure, Hammersmith Bridge had a higher than average modal share of cyclists, despite the lack of protected cycle lanes on the bridge and its approach roads and generally poor quality cycling environment. The carriageway was too dangerous for children to cycle across. An alternative option was for cyclists to dismount and share the walkway with pedestrians, as they have been required to do since the bridge reopened to pedestrians in summer 2021.

The cycle route connecting the bridge, river path and C34 cycleway to Hammersmith town centre and the protected C9 east-west cycleway is on unprotected roads, with Bridge Avenue blighted by excess parking and frequent commercial vehicle movements.

Cycle connectivity on the south side is even worse with a lack of cycle lanes to Barnes or Putney other than the unpaved and unlit river Thames paths. TfL's 'C57' cycleway comprises patchy wanded southbound sections interspersed with driveways, bus stops and side roads along Castelnau; when the bridge was open to motor traffic this road was a perpetual traffic jam and hostile to cycling.

To improve provision for cyclists (and pedestrians) along Hammersmith Bridge, there will be a fully segregated two way cycle track along the bridge, adjacent to the podway, keeping cyclists off the pedestrian footways on either side of the bridge.

On the north side, this segregated track continues to the junction of Bridge View and Rutland Grove. Cyclists are then given the option to continue straight along Bridge view

⁷² [Strategic Case for Metroisation in south and south east London](#), Transport for London

towards Hammersmith town centre and the recently upgraded cycleway 9 between Brentford and Hammersmith. A modal filter is needed at the junction of Bridge Avenue and King Street to reduce motor vehicle movements on Bridge Avenue (although local access would be maintained via Down Place) and create a cycle only turning here, making it safer for cyclists travelling between cycleway C9 and Hammersmith Bridge.

Our proposal also includes an upgraded cycle track that connects Hammersmith Bridge Road to Sussex Place for Hammersmith gyratory, and gives protected access to TfL's C34 cycle route to South Fulham. Hammersmith gyratory may now constitute an important end-point for cycle trips from south of the river, since the introduction of LBHF's new cycle hub at the top of Fulham Palace Road enables cycles to be stored securely while travellers continue their onward journeys via the public transport network⁷³. Multi-modality and 'feeder' infrastructure enabling cycling and public transport to be combined are important features of successful car-free urban transport ecologies.

Hammersmith Bridge Road and Castlenau approaches to Hammersmith Bridge will only be used for local access and taxi drop-offs as the bridge remains closed to motorised vehicles. As a result, the level of motorised vehicles will be low enough to enable these roads to be a shared space with cyclists. This enables us to provide extra space for improved pedestrian pavements and for the podway scheme as well as adequate cycle provision.

⁷³ [Hammersmith Cycle Hub](#), Hammersmith & Fulham

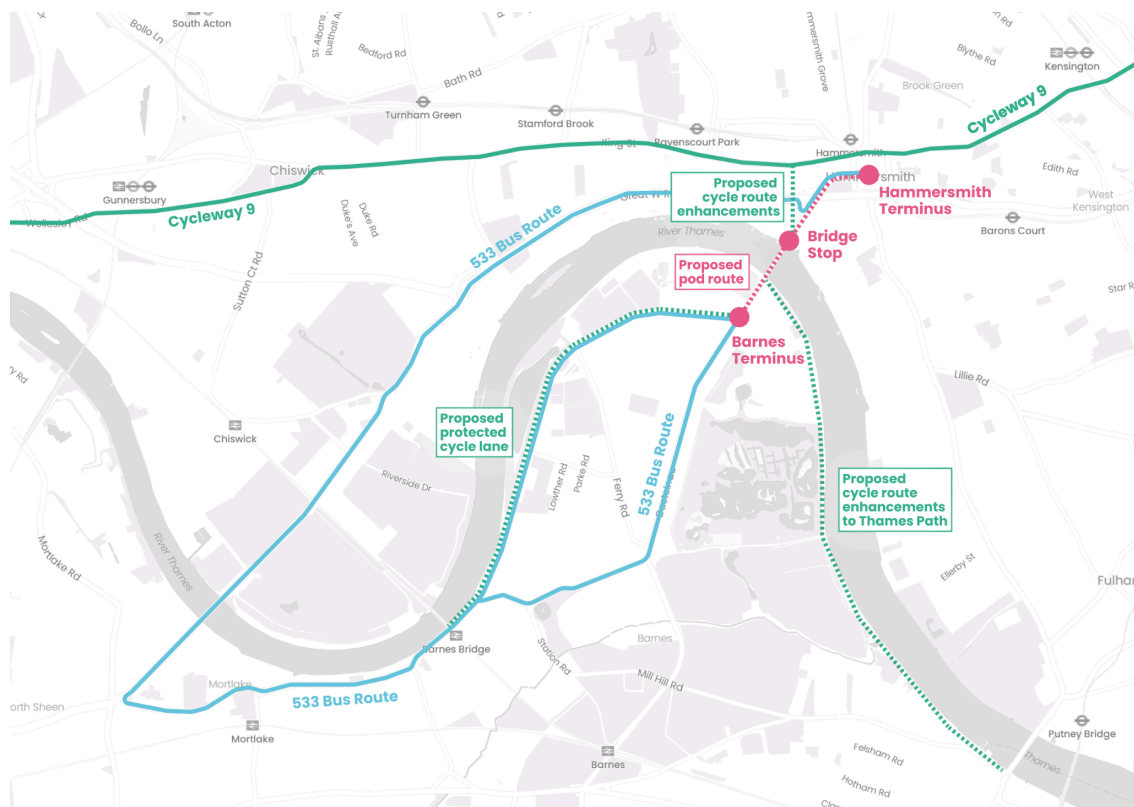


Figure 22: Public transport and active travel connections around Hammersmith Bridge

On the south side our proposal includes a fully protected two-way cycle track along Lonsdale Road to Barnes Bridge and with flow cycle tracks with light segregation on Castelnau.

On Castelnau, our cycle lane connects to the segregated southbound only cycle lane that continues south along Castelnau from Trinity Church Road junction. This southbound cycle lane should be duplicated on the other side of Castelnau to create a northbound cycle lane that connects to the cycle lane in our proposal. We acknowledge that there are road capacity constraints especially alongside the bus lane. However with the long term removal of almost all motor traffic on Hammersmith Bridge Road, the need for a bus lane on Castelnau is low as the main source of traffic and congestion along this road was drivers heading for the bridge.

On Lonsdale Road the two way cycle track in our proposal should be extended to Barnes High Street for Barnes village centre and nearby Barnes Bridge station. This road has a significant amount of car parking which could potentially be adjusted to make room for cycle lanes. Lonsdale Road hosts three large schools and a Montessori nursery that generate a

high number of car trips at present, in part because the road is unsafe to cycle.

Additionally, the towpath from Hammersmith Bridge to Putney Bridge should be upgraded to a permeable hard surface that enables a lightly segregated path for pedestrians and cyclists along its entire length. Lighting of some kind will also be needed along this path to create a new 24-hour direct cycling connection between Hammersmith and Putney Bridges. To minimise light pollution and installation costs this could use the 'runway' style LED accent lighting deployed by Ealing Council on TfL's C49 cycle route through Southfields Recreation Ground.

Finally, our manual count revealed huge numbers of cyclists crossing Putney Bridge during the morning peak, despite the total absence of any safe cycling infrastructure here. TfL should consider introducing a protected lane, to safeguard existing cyclists as well as support more people to choose this travel option for their morning commute.



Photo: 3D visualisation of a TfL Santander hire dock on Castelnau. (Possible)

Santander Cycles

The expansion of TfL's Santander cycle hire scheme south of the river into Barnes and Richmond more widely is a key priority. Currently on the north side of the Bridge there are

Santander cycle docks an approximate 4 minute walk away on Crisp Road (0.2 miles) and also on the Bridge Avenue route connecting C9 to Hammersmith Bridge. However, on the south side of the bridge there are no Santander docks, with the nearest being 2 miles away (approximately 40 minutes walk) at Putney Pier for Putney Bridge.

Our proposals include two Santander cycle docks on Castelnau. They will both be placed just north of Glentham Road and together house 30 santander cycles. We also propose further Santander bike hire docks on the south side of the river, in particular at Barnes Bridge and Barnes stations, as well as beside Barnes pond, at the WWT Wetlands centre, and at Barnes Common and Putney Common. Residential streets and key points along Castelnau and Lonsdale Road should also be considered for cycle hire docks.



Photo: 3D visualisation of a large mobility scooter hire dock at the junction of Castelnau and Merthyr Terrace, behind the existing modal filter. (Possible)

Micromobility

The revolution of scooter and cycle hire in London has largely excluded people with mobility issues, which includes a high share of Barnes residents. We seek to address this by making accessible electric assist scooters and bikes available as part of micromobility hire fleets, as has been proposed by hire provider Beryl in Leeds. Whilst the Lime Assist service delivers such vehicles to users homes on demand, we propose to have these vehicles available in a dock akin to the Santander cycle docks. This would be more equitable by providing the same turn-up-and-go service that is currently available for Santander cycles and e-scooter hire schemes. Our highways

scheme design makes provision for this dock to be located at the junction of Castelnau and Merthyr Terrace in our plans.

Most mobility scooters are unsuited to service as hire vehicles, but Lowestoft-based manufacturers Scooterpac produce a high-spec, fully enclosed all-weather scooter which could fulfil this use case. The 'Cabin Car' Class 3 electric Mobility Scooter costs around £10,000, can legally be driven on the carriageway as well as on pavements, and has a maximum speed of 8mph and a maximum range of 30 miles⁷⁴.



Photo: ScooterPac 'Cabin Car' Class 3 Mobility Scooter (Possible)

It would be possible to use Motability's Community Transport Grant Programme⁷⁵ to support the purchase of a fleet of these vehicles for the exclusive use of Barnes residents. Hire could be arranged through a membership booking system, perhaps run out of Castelnau Community Centre⁷⁶, with vehicles stationed at strategic locations in Barnes and charged centrally a couple of times a week.

If the service was attractive enough for people who will never cycle, it could replace many circuitous trips currently made by car by wealthier Barnes residents too - in turn alleviating congestion at pinch points such as Chalkers' Corner.

E- scooters

Both Hammersmith & Fulham and Richmond council are participating in the current London e-scooters pilot rental

⁷⁴ [Cabin Car, Scooterpac](#)

⁷⁵ [Community Transport Grant Programme, Motability Foundation](#)

⁷⁶ [Castelnau Community Centre](#)

scheme, which means hire-scooter trips can be made between locations on both sides of the bridge. This has been a popular option for local river crossings, and e-scooter hire docks are already present on Castelnau at the junction at Glenthams Road. We want to ensure that this scheme remains permanent in these boroughs, with more docking stations around Hammersmith Bridge.

Once the bridge's carriageway has reopened to cycling it will be safe for e-scooter users to be able to travel at normal speeds in the cycle lanes, but the walkways should be geofenced 'no scooter zones' where the e-scooters will safely stop and locking will be disabled. This will prevent e-scooters being parked in the walkways, and users will have to dismount and walk with their e-scooters if they choose to use the walkway. By doing this the walkways will remain a safe and less congested area for pedestrians.

Pedicabs

We support plans for the rapid reintroduction of the City Shuttle velo-taxi service over the bridge. The previous six month trial orchestrated by Barnes Community Association was extremely popular locally, carrying over 9,100 people across the river. However the service has been prevented from re-starting due to complaints from London Taxis about unlicensed competition.

The King's Speech in November 2023 announced the government's intention to legislate the Pedicabs (London) Bill, which would enshrine the regulation of cycle rickshaws in London into law. This in turn would enable TfL to licence services and provide logistical support to integrate them into London's wider transport ecosystem, including potentially providing price support for disabled access to door-to-door transport services using the bridge.

Cycle logistics firm Pedalme also offers cargo bike passenger carriage in London. Their bikes can carry either two adult passengers or one adult and two children. Pedalme operates in many areas across London and therefore could be used for journeys that begin or end far beyond Hammersmith and Barnes.

E-cargo bikes

Both Richmond⁷⁷ and LBHF⁷⁸ councils operate support schemes for residents and businesses to switch to e-cargo bikes. With the bridge carriageway reopened to cycling, both councils should proactively reach out to local businesses that are making frequent deliveries across the river to encourage them to see if e-cargo bikes could be suitable for meeting their needs.

Taxis



Photo: 3D visualisation of a dedicated London Taxi rank on Castelnau.
(Possible)

Our proposals include dedicated taxi ranks sited as close as possible to the bridge. These parking bays are for the exclusive use of licensed London Taxis, ensuring there is always somewhere to drop off or collect passengers from the kerbside on both sides of the river here⁷⁹.

⁷⁷ [Cargo Bikes, Richmond](#)

⁷⁸ [Make the switch! Cargo bike discounts help H&F businesses cut costs and pollution, Hammersmith & Fulham](#)

⁷⁹ [London Taxi Ranks, Transport for London](#)

Traffic and congestion on other routes

The loss of connectivity at the bridge is only part of the explanation for why political pressure to reopen it to cars remains high in south west London. Many key arterial roads in this part of the capital are badly congested during peak periods, leading to miserable commutes for those driving or riding buses on them, and traffic blight and public health problems for the communities they pass through.

As we have seen, data show that the role of Hammersmith Bridge as a causal factor in these problems has been badly overstated. Ultimately, these are problems being experienced in every built-up area of the developed world, as the number (and size) of private cars on our roads has inexorably increased over time. Cars are the most space-inefficient mode of transport available. This is an urban geometry problem.

High Occupancy Vehicle (HOV) lanes

Thankfully, our manual counts on the neighbouring bridges flagged up one promising avenue of recourse. We found that most of the AM peak motor traffic on these bridges is comprised of single occupant cars – the most space-profligate and in theory most easily switched of all vehicle journeys. All 3,281 solo drivers we counted crossing bridges in the morning rush hour would fit on just 42 London buses.

An approach to tackling congestion that has been popular in the United States but very rare so far in the UK is the use of High Occupancy Vehicle Lanes (HOV lanes). HOV lanes are designed to discourage single occupancy car use by providing additional priority to vehicles with more than a minimum number of occupants (usually two or three) and buses⁸⁰. They have been reported to reduce vehicle trips on HOV corridors by between 4% and 30%, with the highest efficacy on the most congested corridors. Only Leeds and Bristol have used HOVs in the UK to date, and enforcement has historically been a challenge, relying on police to carry out manual checks⁸¹. London councils have had the powers to use cameras to enforce interventions like HOVs for many years, but the technology to detect passenger numbers has not been accurate enough to rely on. However, the advent of artificial intelligence (AI) camera based traffic enforcement systems means that this technological hurdle has now been

⁸⁰ [High Occupancy Vehicle \(HOV\) lanes, KonSULT Charged access](#)

⁸¹ [Hundreds of drivers using Leeds' two-plus car lanes illegally but hardly anyone is fined, LeedsLive](#)

cleared, with trials in Devon and Cornwall in 2023 catching thousands of drivers not wearing seatbelts or using mobile phones⁸².

West London's bridges typically do not have enough lanes to implement a standard HOV approach. However, the technology and enforcement powers now exist to apply a toll to motorists crossing these bridges during peak periods in single occupancy vehicles. Cars carrying passengers would not be charged. Blue badge holders would be exempt and businesses could apply for annual passes at discounted rates. The toll could be applied only during the AM and PM peak periods, closely targeting the causes of congestion on these bridges and their approach roads.

Revenues raised by the tolls could be used by the local councils and TfL to support improvements to public transport and active travel provision in south west London such as those set out in our recommendations above. There could also be provision to support those using their personal cars to make deliveries across the Thames to switch to e-cargo bikes, which have been shown to be a faster option in built up areas as well as a safer and more sustainable one⁸³. Because the Thames acts as a natural barrier to road traffic with a limited number of crossing points, it would be relatively easy to install camera enforcement on each of them to capture all cross-river rush hour motor traffic.

Some may balk at the suggestion of charging drivers to cross the Thames. But this is already the plan for motorists in east London using the Blackwall or under-construction Silvertown tunnels⁸⁴. Tolling London's bridges has recently been proposed by the GLA's Transport Committee as a means of raising revenue to pay in to a repair fund, to avoid any future repeats of the situation with Hammersmith Bridge⁸⁵. Further important but very poorly understood context is that because of the fiscal framework and balance of responsibilities between London and central government, public transport users in the capital effectively subsidise car

⁸² [AI cameras that can spot mobile phone use prove successful in trials](#), FleetNews

⁸³ [The Promise of Low Carbon Freight: Benefits of cargo bikes in London](#), Possible and Active Travel Academy, August 2021

⁸⁴ ['£10 for return trip through Blackwall tunnel' warning as Sadiq Khan seeks Government help for lower tolls for low-income drivers](#), the Standard

⁸⁵ [London's river crossings: Bridging the Thames](#), London Assembly

drivers very heavily at present⁸⁶. The original bridge connecting Putney and Fulham was also tolled until 1879⁸⁷.

As well as helping to reduce cross-subsidy of motorists by public transport users and to recover a greater share of the costs of road provision from them, we contend that timed bridge tolls using HOV lane thresholds and ANPR AI camera enforcement could also be a highly effective way to contribute to London's traffic reduction targets, and to alleviate chronic congestion on bottleneck roads which were never designed to accommodate the volumes of motor traffic they endure today.

Smart road user charging

Ultimately, Possible supports universal smart road user charging as the fairest and most equitable way to manage motor traffic on our streets, as well as recovering the full social and environmental costs that car use imposes. The UK government continues to insist that it has no plans to implement road user charging, but without a change to the current fiscal arrangements for motoring the public finances face a rapidly growing black hole due to the loss of fuel duty revenue⁸⁸. TfL has explored moving to road user charging for London, and said this would be feasible, but due to the politically charged atmosphere around this issue, in March 2024 London's Mayor Sadiq Khan reiterated that, "For as long as I'm mayor I categorically rule out the introduction of a pay-per-mile scheme in London."⁸⁹

Nevertheless we should be clear that measures of this type – whether a full scale road user charging scheme, smart tolls on Thames crossings, or other explicit curbs on car use in the city – are a non-negotiable requirement for achieving London's 2030 net zero target. Choosing not to take action to deliver rapid reductions in car traffic in London, and instead to seek large scale public investment in new road infrastructure to facilitate more car travel in west London, represents a clear choice to prioritise other political considerations over fulfilling climate commitments.

⁸⁶ TfL's 2017 business plan explained that the loss of government operating grant, while Vehicle Excise Duty was hypothecated for road maintenance outside London would leave the costs of road maintenance and renewals (~£350m per year) "effectively being cross subsidised from fare-paying public transport users." TfL's 2024 business plan confirms this is still the case ([2017 / 2024](#))

⁸⁷ [The original Putney Bridge](#), the History of London

⁸⁸ [Road Pricing: Government Response to the Committee's Fourth Report of Session 2021–22](#), UK Parliament

⁸⁹ ['No more road charges' pledges Sadiq Khan as election jitters set in](#), The Times

Conclusion and next steps



Photo: A painting of Hammersmith Bridge by pupils at St Osmund's Primary School, Barnes. Note the absence of cars (Possible)

Possible had intended to take the work detailed in this report forward to a full feasibility study, and assembled an expert industrial consortium, source of funding and institutional support to do so. The output would have been an investable business case into the use of lightweight autonomous shuttles to bridge the gap in public transport provision here. Unfortunately the Leader of LBHF blocked this from going ahead⁹⁰ so our own work on the future of Hammersmith Bridge has come to an end, at least for now.

However, the reality remains that the bridge is highly likely to stay closed to motor traffic for the foreseeable future, probably forever. LBHF appears to be holding out in the hopes that a new government will take a different view on funding the full restoration works. But it seems implausible that any new government assuming power during a recession and cost of living crisis will want to break its own public investment rules in order to pour money into establishing a low-capacity road link between two high-income west

⁹⁰ See appendix A for details.

London neighbourhoods. Likewise, the idea that TfL will be willing to advance this project over other urgent infrastructure spending priorities is not credible.

Hammersmith Bridge has stayed closed to motor traffic for a long time and will likely remain so. It is long past time that the relevant authorities seriously explore what more can be done to make this situation work for west Londoners. It was encouraging to see the following in LBHF's most recent (February 2024) communication about the bridge:

"H&F will review e-mobility options to shuttle residents across the bridge, notably the elderly or Disabled."⁹¹

This news item also states that a new, post-stabilisation work weight limit of just 1.5 tonnes has been "imposed by safety experts". This lower weight limit will be much harder to work within, but it is also the case that in any scenario further work is going to be required to the bridge's ageing structure to keep it safe. A key part of what needs to happen next is to fully cost any such works that may be needed to support a lightweight public transport link, so that a business case for this option can be considered alongside the astronomical budget needed to reopen the bridge to cars.

Possible is highly supportive of plans to use pedicabs to transport less-mobile local residents over the bridge in the near future. But this is no substitute for lost public transport connectivity, due to the limited capacity and high labour costs. This is why we believe that some version of the plans we have set out here is ultimately the best and most cost-efficient long-term solution for Hammersmith Bridge.

As for the evident traffic blight afflicting other roads in this part of the capital, a more honest and courageous approach is needed. Congestion is caused by too many people driving private cars at the same time as each other, on the same roads. 'More road' has never been the right solution to too many cars, especially in major cities like London. The climate emergency now demands that we finally confront this truth after decades of ignoring the mountains of evidence underscoring it.

Primary school children in Barnes can no longer remember a time when it was possible to cross Hammersmith Bridge by car. The climate crisis is unfolding all around us, and London's commitment to tackling it means we face unprecedented changes to the way things have been done in the past. Meanwhile, the use of autonomous vehicle technology to

⁹¹ [Temporary cycle lanes across Hammersmith Bridge open, Hammersmith & Fulham](#)

support better public transport provision is picking up pace around the world, and Londoners like the idea of using it to help overcome the challenges posed by Hammersmith Bridge's closure.

Hammersmith & Fulham Council have the opportunity to do something genuinely world leading that uses the bridge to link our proud engineering heritage with our zero carbon future. Making a virtue of necessity could engender the kind of boost to walking, wheeling and cycling in west London that is urgently needed across the capital, enhancing public health and quality of life for those living and working here. Sustaining the rare tranquillity that has settled over this stretch of the river over the past five years can go hand in hand with ensuring local people can get where they need to go.

Appendix A: attempts to move to full feasibility for the pods proposal



In May 2023 the Centre for Connected and Autonomous Vehicles (C-CAV) opened a £200k funding competition to support feasibility studies looking at commercialising automated mass transit solutions⁹². Possible assembled an industrial consortium of highways engineers⁹³, transport consultants⁹⁴ and autonomous vehicle providers⁹⁵ who were ready to build on the detailed pre-feasibility work we had already completed on the proposed shuttle solution, including putting match funding of their own behind the project. We also recruited an expert advisory panel including heritage and Disabled people's organisations, transport innovation and planning experts and bridge engineers.

Possible met with C-CAV to outline our proposals, and they told us we had a strong case for support, with one caveat: successful bids must have the blessing, in the form of a letter of support, of the relevant highways authorities. We met with the transport team at Richmond Council and the innovation and autonomous vehicle leads at TfL. Both confirmed that they would be happy to support a full feasibility into the shuttle solution – but only provided that LBHF agreed to this first, as the highways authority responsible for the bridge itself.

Unfortunately LBHF would still not return our emails on the subject, so we ran a petition for local Hammersmith & Fulham residents to ask the council to give us the letter of support we needed⁹⁶. We quickly reached the 250 signatures needed to trigger a council debate, and in June 2023 we presented the request to a meeting of LBHF's cabinet⁹⁷. We were told that the council would not sign our letter of support for the study – because they already had their own feasibility study underway looking into the same thing.

⁹² [Commercialising Connected and Automated Mobility: Mass Transit Feasibility Studies 2 Briefing](#), Innovate UK

⁹³ [About](#), City Infinity

⁹⁴ [Team](#), City Science

⁹⁵ Ohmio and its UK partners, [Red Bull Advanced Technologies](#)

⁹⁶ [Hammersmith Bridge – Letter of support for a feasibility study into the use of lightweight, electric autonomous shuttles to help people cross the river](#), Hammersmith & Fulham

⁹⁷ Full minutes of this part of the meeting are [available](#), and the meeting can be [watched back](#).

This was a surprise since five months earlier we had been told in an LBHF FOI response that no such work was being undertaken by the council, and none of the stakeholders we were speaking to knew anything about this study. Nevertheless we secured a meeting with the senior officers leading the council's bridge work to discuss next steps. We were told that we would be sent the council's own feasibility study which was now complete, but weeks passed without this happening, and officers once again stopped returning our emails.

The C-CAV application deadline came and went, so we disbanded the consortium, and submitted another FOI request to LBHF to obtain their feasibility study, and details of the date on which it was commissioned. This was not fulfilled, so we requested an internal review of the decision, which eventually led to a refusal on the grounds that, "Disclosure of the information poses a threat to the interests of national security". The pretext offered was that Hammersmith Bridge has been targeted by terrorists in the past and the study contains information about the structural integrity of the bridge.

At this point we referred LBHF to the Information Commissioners' Office for failure to fulfil their duties under the Freedom of Information Act, since sensitive information can be and routinely is redacted from FOI responses where necessary. At the time of writing, this complaint has been accepted and is under review at the ICO, with a formal ruling due by June 2024. Not one of the twelve FOI requests Possible were obliged to make to LBHF over the course of this project was fulfilled within the statutory period; two of them took 200 days or more to respond to, and almost every response failed to provide the information requested in full.

This is all consistent with what Richmond MP Sarah Olney has described as a "culture of secrecy" around the bridge, with those most impacted and their political representatives consistently kept in the dark about developments by both the DfT and LBHF. It also chimes with the picture revealed in a 2020 employment tribunal ruling which found that a transport officer had been unfairly and wrongfully dismissed by LBHF due to his interest in exploring a car-free 'garden bridge' option for the future of Hammersmith Bridge⁹⁸.

⁹⁸ Evidence included a report of a briefing meeting at which his superior officer stated: "I made it clear that [a garden bridge option] is not the Council Policy, no work should be done [sic] on this" option and all internal communications referring to the 'garden bridge' needed to stop." The Claimant won a payout of an undisclosed amount for wrongful dismissal.

Reopening the bridge to cars appears to be a personal obsession of the LBHF council leader, who will not permit any other options to be explored. This is despite the constituents of Hammersmith & Fulham being relatively unaffected by the negative impacts of the closure, while benefiting from lower traffic volumes and improved air quality in Hammersmith Town Centre. Over 250 local residents signed our petition asking for a simple letter of support to enable the 'pods' solution to be explored fully, but were dismissed. Half of Londoners' more widely told pollsters they preferred our option for the future of Hammersmith Bridge to Hammersmith & Fulham's 'double decker' proposal, which was preferred by just 36%.

Appendix B: acknowledgements



This report has been shaped by dialogue with huge numbers of people, and we are very grateful for their time and insights, all of which improved our understanding of the challenges and potential remedies explored here. We have done our best to include them all below, but have still probably missed some off! Our eternal gratitude goes to:

Our highways engineer Mark Philpotts BEng (Hons) CEng FICE FCIHT FIHE PIEMA MTPS at City Infinity and our architectural visualiser Mark Summerfield.

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Our consortium for the feasibility study: Dean Zabrieszach and Mohammed Hikmet at Ohmi, Laurence Oakes-Ash and Simon Lusby at consultancy City Science, Gav Jackman at Sustainicity, Brian Matthews, head of transport innovation at Milton Keynes council and Ian Pulford at Smart City Consultancy. Our proposed steering group for the feasibility study: Mark Frost, chair of the Transport Planning Society, David Milner MEng, Deputy Director at Create Streets, Rufus Foster, bridge engineer at Mott Macdonald, and Thomas Ableman and Becky Upfold from the innovation team at TfL.

Everyone who came along to our community events in Barnes, Hammersmith and Fulham, and all of the LBHF residents who signed our petition to the council to support the feasibility study.

Civil servants at the Department for Transport, advisors to the shadow Labour government, and current and former officers at Hammersmith & Fulham council – you know who you are.